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Complete and Up-To-Date

BUYERS' GUIDE

Of Refinery Equipment

Including Practical Engineering Data For
Builders and Operators of Petroleum Refineries

SECTION 2

March 30, 1946 Refining Issue

The OIL AND GAS JOURNAL

In *Glitsch*
BUBBLE TRAYS and BUBBLE CAPS . . .

FREEDOM *of Design*

1. **Maximum number of caps and vapor uptake area for tray diameter and specified vapor riser size.**
2. **Individual, adjustable caps for various weir settings.**
3. **Adjustable weirs at each tray cascade level.**
4. **Decks designed to pass through minimum size manways.**
5. **Caps assembled to deck sections before installation in tower.**
6. **Individual parts light and easy to handle.**
7. **Carbon steel of relatively light gauge used where corrosion is not anticipated. Alloy used where corrosion is an operating factor.**
8. **Manways provided in trays for inspection.**

Illustration shows a 14'-0" diameter, single pass, two-level bubble tray with fabricated and welded center beam. The tray is made of a low-carbon steel. Three of these trays were fabricated together with a number of 24'-0", 29'-0" and 33'-0" diameter trays Tray plates and minor supports are 10 ga Caps and risers are 12 ga. Main support beam is of fabricated construction.

Manufactured under U.S. Pat. No. 2,210,808 and other Patents Pending.

Manufactured under U S. Patent No. 2,210,808; No. 2,309,309; No 2,338,926; No. 2,341,091 and other Patents Pending

Glitsch

Fritz W. Glitsch & Sons *Dallas 1, Texas*

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Houston Office: K. E. Luger Co., 3618 Washington Ave.
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Pittsburgh Office: D. D. Foster Co., Peoples Gas Bldg.
Los Angeles Office: S. G. Higginbotham & Co., 1619 Comstock Ave.

"TRUSS-TYPE" BUBBLE TRAYS • CAPS • TOWER INTERNALS

the OIL AND GAS JOURNAL

Buyers' Guide of Refinery Equipment

A Complete List of All Manufacturers of Refinery Equipment and Services

Bold face indicates the Manufacturer has placed an advertisement in this issue for further reference

ABRASIVES:

Abrasive Co., Tacony & Fraley Sts., Philadelphia, Pa.
American Foundry Equipment Co., Michawaka, Ind.
Atkins, E. C., and Co., Indianapolis 9, Ind.
Brown, Andrew, Co., Los Angeles 22, Calif.
Carborundum Co., Niagara Falls, N. Y.
DoAll Co., The, Minneapolis 4, Minn.
Illinois Minerals Co., Cairo, Ill.
MacClatchie Mfg. C., Compton, Calif.
Master Vibrator Co., Dayton, Ohio
Norton Co., Worcester, Mass.
Pangborn Corp., Hagerstown, Md.
U. S. Rubber Co., 1230 Sixth Ave., New York City

ABSORBERS:

Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
American Locomotive Co., Alco Products Div., 30 Church St., New York City
Babcock & Wilcox Tube Co., The, 85 Liberty St., New York City
Bethlehem Steel Co., Bethlehem, Pa.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Braun, C. F., & Co., Alhambra, Calif.
Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill.
Combustion Engineering Co., Inc., 200 Madison Ave., New York City
Dallas Tank Co., Inc., Dallas, Tex.
Fluor Corp., Ltd., Box 7030, Los Angeles, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
Gasoline Plant Construction Co., Houston, Tex.
General American Transportation Corp., 135 La Salle St., Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Head, Wrightson & Co., Ltd., London, S.W.I., England
Hudson Engineering Corp., Houston, Tex.
Knight, Maurice E., Co., Akron 9, Ohio
Lancaster Iron Works, Lancaster, Pa.
Leader Iron Works, Inc., Decatur 60, Ill.
McKee, Arthur G., & Co., Cleveland, Ohio
McNamar Boiler & Tank Co., Tulsa, Okla.
National Tank Co., Tulsa, Okla.
Nooter, John, Boiler Works Co., 1400 So. Second St., St. Louis 4, Mo.
Peabody Engineering Corp., 580 Fifth Ave., New York 19, N. Y.
Petroleum Engineering, Inc,, Tulsa, Okla.
Pollock, William B., Co., Youngstown, Ohio
Standard Steel Corp., Los Angeles, Calif.
Stearns-Roger Manufacturing Co., Denver, Colo.
Southwestern Engineering Co., Los Angeles, Calif.
Southwest Welding & Mfg. Co., Alhambra, Calif.
Struthers-Wells, Warren, Pa.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vulcan Steel Tank Corp., Tulsa, Okla.
Wyatt Metal & Boiler Works, Houston, Tex.

ABSORBERS—Ammonia:

Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Lancaster Iron Works, Lancaster, Pa.
Nooter, John, Boiler Works Co., 1400 So. Second St., St. Louis 4, Mo.
Southwestern Engineering Co., Los Angeles, Calif.
Standard Steel Co., Los Angeles, Calif.
Struthers-Wells, Warren, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.
York Corp., York, Pa.

ACCUMULATORS—Steam:

American Locomotive Co., 30 Church St., New York, N. Y.
Farrar & Trefts, Inc., Buffalo, N. Y.
Foster Wheeler Corp., 165 Broadway, New York City
General American Transportation Corp., 135 So. La Salle St., Chicago, Ill.
Hudson Engineering Co., Houston, Tex.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
McKee, Arthur G., & Co., Cleveland, Ohio
Standard Steel Corp., Los Angeles, Calif.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Wyatt Metal & Boiler Works, Houston, Tex.

ACETYLENE:

Air Reduction Sales Co., 60 E. 42nd St., New York City 17, N. Y.
Linde Air Products Co., 30 E. 42nd St., New York City
National Cylinder Gas Co., 205 W. Wacker, Chicago, Ill.
Walls Chemical Div.-Liquid Carbonic Co., Chicago 23, Ill.

ACETYLENE GENERATORS :

Air Reduction Sales Co., 60 E. 42nd St., New York City 17, N. Y.
Linde Air Products Co., 30 E. 42nd St., New York City
National Cylinder Gas Co., 205 W. Wacker, Chicago, Ill.
Sight Feed Generator Co., Richmond, Ind.
Smith Welding Equipment Co., 2633 S. E. 4th St., Minneapolis, Minn.

ACID—Anhydrous HF:

Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
General Chemical Co., 40 Rector St., New York 6, N. Y.
Harshaw Chemical Co., The, Cleveland 6, Ohio
Monsanto Chemical Co., St. Louis, Mo.
Pennsylvania Salt Mfg. Co., Widener Bldg., Philadelphia, Pa.

ACID—Hydrochloric:

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, New York, N. Y.
Bay Chemical Co., 1048 Constance St., New Orleans, La.
Chemical Construction Corp., 350 Fifth Ave., New York 1, N. Y.
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
General Chemical Co., 40 Rector St., New York 6, N. Y.
Pennsylvania Salt Mfg. Co., Widener Bldg., Philadelphia, Pa.

ACID—Sulphuric:

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, New York City
Consolidated Chemical Industries, Houston, Tex.

CHEMICALS
FOR THE PETROLEUM PRODUCER AND REFINER
Sulphuric Acid - Muriatic Acid
Nitric Acid
Texine Inhibitor for inhibiting muriatic acid
Salt Cake (Sodium Sulphate)
Aluminum Sulphate (Filter Alum)
Ammonia Alum
Potash Alum
Animal Charcoal (Bone Black)
CONSOLIDATED CHEMICAL INDUSTRIES INC.
Southern Division
General Offices:
Mellie Esperson Bldg., Houston 2, Tex.

Davison Chemical Corp., The, Silica Gel Dept., 20 Hopkins Place, Baltimore, Md.
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
General Chemical Co., 40 Rector St., New York City 6
Monsanto Chemical Co., St. Louis, Mo.
New Jersey Zinc Co., 160 Front St., New York City
Ozark Chemical Co., Tulsa, Okla.
Pennsylvania Salt Mfg. Co., Widener Bldg., Philadelphia, Pa.

ACID RECOVERY SYSTEMS—See PLANTS, Acid Recovery:

ACID-TREATING EQUIPMENT — See Specific Equipment:

ACIDPROOF BRICK — See BRICK, Acid-Proof:

ACIDPROOF BRICK LININGS—See LININGS, Acidproof, Brick and Tile:

ACIDPROOF CEMENT—See CEMENT, Acidproof:

ACTUATORS—Electrical:

Foote Bros. Gear & Machine Corp., 5225 S. Western, Chicago 9, Ill.

ADDITIVES:

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, New York, N. Y.

ADDITIVES

For Lubricants

AEROLUBE* Lubricating Oil Additives

Detergents Inhibitors

Metal Deactivators

AMERICAN CYANAMID & CHEMICAL CORPORATION

New York Houston Azusa, Calif.

*Trade-mark

Lubri-Gas Laboratories, 221 N. La Salle, Chicago, Ill.
Monsanto Chemical Co., St. Louis, Mo.
Patent Chemicals, Inc., 335 Boulevard, Paterson 3, N. J.
Rohm & Haas Co., Washington Square, Philadelphia 5, Pa.
Stanco Distributors, 26 Broadway, New Nork, N. Y.

ADSORBENTS:

Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
Attapulgas Clay Co., 260 Broad St., Philadelphia, Pa.
Carbide & Carbon Chem. Corp., 30 E. 42nd St., New York City
Filtrol Corp., 634 S. Spring St., Los Angeles 14, Calif.
Floridin Co., Warren, Pa.
West Virginia Pulp & Paper Co., 230 Park Ave., New York City

ADSORBERS:

Dallas Tank Co., Inc., Dallas, Tex.
Darby Corp., The, Kansas City, Kans.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Kemp, C. M., Mfg. Co., Baltimore 2, Md.
Pittsburgh Lectrodryer Corp., Pittsburgh, Pa.
Pritchard, J. F., & Co., Kansas City, Mo.
Tulsa Boiler & Marchinery Co., Tulsa, Okla.

AFTER-COOLERS:

American District Steam Co., North Tonawanda, N. Y.
American Locomotive Co., Alco Products Div., 30 Church St., New York City
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Bethlehem Steel Co., Bethlehem, Pa.
Biggs Boiler Works, The, Akron, Ohio
Braun, C. F., & Co., Alhambra, Calif.
Brown Fintube Co., Elyria, Ohio
Bury Compressor Co., Erie, Pa.
Chicago Pneumatic Tool Co., 6 E. 44th St., New York 17, N. Y.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Dallas Tank Co., Inc., Dallas, Tex.
Devine, J. P., Mfg. Co., Mount Vernon, Ill.
Engineers & Fabricators, Inc., Houston, Tex.
Foster Wheeler Corp., 165 Broadway, New York City
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Griscom-Russell Co., The, 285 Madison Ave., New York City 17
Head, Wrightson & Co., Ltd., London, S.W.I., England
Ingersoll-Rand Co., 11 Broadway, New York City 4
Patterson-Kelly Co., Inc., The, East Stroudsburg, Pa.
Porter Co., H. K., Inc., Pittsburgh 22, Pa.
Pritchard, J. F., & Co., Kansas City, Mo.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Southwest Welding & Mfg. Co., Alhambra, Calif.
Southwestern Engineering Co., Los Angeles, Calif.
Stearns-Roger Mfg. Co., Denver 2, Colo.
Struthers-Wells, Warren, Pa.
Sullivan Machinery Co., Michigan City, Ind.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vogt, Henry, Machine Co., Louisville, Ky.
Western Supply Co., Tulsa, Okla.
Whitlock Mfg. Co., The, Hartford, Conn.
Worthington Pump & Machinery Corp., Harrison, N. J.
Wyatt Metal & Boiler Works, Houston, Tex.
Zallea Bros. & Johnson, 316 Locust St., Wilmington, Del.

AGITATORS—Propeller Type:

Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
Alsop Engineer Corp., Milldale, Conn.
Eastern Engr. Co., New Haven, Conn.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Haveg Corp., Newark, Del.
Mixing Equipment Co., Inc., Rochester, N. Y.
New England Tank & Tower Co., Everett, Mass.
Patterson Foundry & Machine Co., E. Liverpool, Ohio
Pfaudler Co., The, Rochester, N. Y.
Pollock, William B., Co., Youngstown, Ohio
Porter Co., H. K., Inc., Pittsburgh 22, Pa.
Struthers-Wells, Warren, Pa.
Turbo-Mixer Corp., The, New York City

AGITATORS—Tank Type:

Alsop Engineering Corp., Milldale, Conn.
Bethlehem Steel Co., Bethlehem, Pa.
Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill.
Curtis Mfg. Co., St. Louis 20, Mo.
Dallas Tank Co., Inc., Dallas, Tex.
Eaton Metal Products Co., Denver 16, Colo.
Frick Co., Waynesboro, Pa.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Hendrick Mfg. Co., Carbondale, Pa.
McKee, Arthur G., & Co., Cleveland, Ohio
McNamar Boiler & Tank Co., Tulsa, Okla.
Mixing Equipment Co., Inc., Rochester, N. Y.
Morrison Brothers, Dubuque, Iowa
Oxley Engineering Co., Ltd., London, England
Patterson Foundry & Machine Co., The, East Liverpool, Ohio
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Pollock, William B., Co., Youngstown, Ohio
Porter, H. K., Co., Inc., Pittsburgh, Pa.
Southwest Welding & Mfg. Co., Alhambra, Calif.
Sowers Mfg. Co., Buffalo, N. Y.
Struthers-Wells, Warren, Pa.
Turbo-Mixer Corp., New York City
Vulcan Steel Tank Corp., Tulsa, Okla.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.

AIR CLEANERS—See FILTERS, Air:

AIR COMPRESSORS—See COMPRESSORS, Air:

AIR-CONDITIONING SYSTEMS AND APPARATUS:

Brown Instrument Co., Philadelphia 44, Pa.
Carrier Corp., Syracuse, N. Y.
Clarage Fan Co., Kalamazoo, Mich.
Curtis Mfg. Co., St. Louis 20, Mo.
Drayer-Hanson, P. O. Box 2215, Terminal Annex, Los Angeles 54, Calif.
Frick Co., Waynesboro, Pa.
Ilg Electric Ventilating Co., 2850 N. Pulaski Ave., Chicago, Ill.
Pittsburgh Lectrodryer Corp., Box 1766, Pittsburgh, Pa.
Pritchard, J. F., & Co., Kansas City, Mo.
Ric-Wil Co., Union Commerce Bldg., Cleveland 14, Ohio
Rogers Diesel & Aircraft Corp., 1120 Leggett Ave., New York 59, N. Y.
Sturtevant Co., B. F., Boston, Mass.
Westinghouse Electric Corp., Pittsburgh 30, Pa.
Worthington Pump & Mach. Corp., Harrison, N. J.
York Corp., York, Pa.

AIR EJECTORS—See EJECTORS, Air:

AIR FILTERS—See FILTERS, Air:

AIR MOTORS—See MOTORS, Air:

AIR TRAPS—See TRAPS, Air:

ALARMS:

Brown Instrument Co., Philadelphia 4, Pa.
Davis Emergency Equipment Co., Inc., Newark, N. J.
General Detroit Corp., The, Detroit, Mich.
Inferno Co., The, Shreveport, La.
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.
McDonald, B. F., & Co., 5112 S. Hoover St., Los Angeles 37, Calif.
Mine Safety Appliances Co., Braddock, Thomas and Meade Sts., Pittsburgh, Pa.
Moore Products Co., Philadelphia 24, Pa.
Russell & Stoll Co., 125 Barclay St., New York 7, N. Y.
Shand and Jurs Co., Berkeley 2, Calif.

ALARMS, High and Low Water—See COLUMNS, Water, Safety Alarm:

ALKYLATION UNITS—See PROCESSES, Alkylation:

ALLOYS—Chrome and Chrome-Nickel:

Alan Wood Steel Co., Conshohocken, Pa.
Allegheny Ludlum Steel Co., Pittsburgh, Pa.
American Manganese Steel Div., 389 E. 14th St., Chicago Heights, Ill.
American Steel & Wire Co., Cleveland, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Carpenter Steel Co., Reading, Pa.
Cooper Alloy Foundry Co., Hillside, N. J.
Duraloy Co., The, Scottdale, Pa.
Duriron Co., The, Inc., Dayton, Ohio
Head, Wrightson & Co., Ltd., London, S.W.I., England
International Nickel Co., 67 Wall St., New York City
Lebanon Steel Foundry, Lebanon, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh 30, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Rustless Iron & Steel Div., 3400 E. Chas, Baltimore 13, Md.
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
United Steel Companies, Ltd., Sheffield 10, England
Youngstown Sheet & Tube Co., The, Youngstown, Ohio

ALLOYS—Copper:

American Brass Co., Waterbury 88, Conn.
Ampco Metals, Inc., Milwaukee 4, Wis.
Beryllium Corp. of Pennsylvania, Reading, Pa.
Bunting Brass & Bronze Co., Toledo, Ohio

Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Chase Brass & Copper Co., Waterbury, Conn.
Gilbert Brass Foundry Co., St. Louis, Mo.
Lukens Steel Co., Coatesville, Pa.
Progressive Brass Mfg. Co., Tulsa, Okla.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Shenango-Penn Mold Co., Dover, Ohio

ALLOYS—Corrosion Resisting:
Allegheny Ludlum Steel Corp., Pittsburgh, Pa.
Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
American Brass Co., Waterbury 88, Conn.
American Manganese Steel Div., 389 E. 14th St., Chicago Height, Ill.
American Steel & Wire Co., Cleveland, Ohio
Ampco Metals, Inc., Milwaukee 4, Wis.
Bethlehem Steel Co., Bethlehem, Pa.
Blaw-Knox Co., Blawnox, Pa.
Bridgeport Brass & Copper Co., Bridgeport, Conn.
Bunting Brass & Bronze Co., Toledo, Ohio
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Carpenter Steel Co., Reading, Pa.
Carson Cadillac Corp., Birmingham, Ala.
Chase Brass & Copper Co., Waterbury, Conn.
Cooper Alloy Foundry Co., The, Hillside, N. J.
Duraloy Co., The, Scottdale, Pa.
Duriron Co., The, Inc., Dayton, Ohio
Electro Metallurgical Co., 30 E. 42nd St., New York City
Haynes Stellite Co., Kokomo, Ind.
International Nickel Co., 67 Wall St., New York City
Lebanon Steel Foundry, Lebanon, Pa.
Lukens Steel Foundry, Coatesville, Pa.
Midvale Co., The, Nicetown, Philadelphia, Pa.
National Lead Co., 111 Broadway, New York City
Ohio Steel Foundry Co., The, Springfield, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh 30, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Revere Copper & Brass, Inc., 230 Park Ave., New York City
Reynolds Metals Co., 2500 S. 3rd St., Louisville 1, Ky.
Rustless Iron & Steel Div., 3400 E. Chase, Baltimore 13, Md.
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
Shenango-Penn Mold Co., Dover, Ohio
Sivyer Steel Casting Co., Milwaukee, Wis.
Wall-Colmonoy Corp., Fisher Bldg., Detroit, Mich.
Youngstown Sheet & Tube Co., The, Youngstown, Ohio

ALLOYS—Hard Surfacing:
Allegheny Ludlum Steel Corp., Pittsburgh, Pa.
American Manganese Steel Div., 389 E. 14th St., Chicago Heights, Ill.
Carnegie-Illinois Steel Corp., Carnegie Bldg., Pittsburgh, Pa.
Crucible Steel Co. of America, 405 Lexington Ave., New York City
Fahralloy Co., The, 150th St. and Lexington Ave., Chicago, Ill.
Haynes Stellite Co., Kokomo, Ind.
Lukens Steel Co., Coatesville, Pa.
National Cylinder Gas Co., 205 W. Wacker Drive, Chicago, Ill.
Pittsburgh Steel Co., Grant Bldg., Pittsburgh 30, Pa.
Republic Steel Corp., Cleveland, Ohio
Stoody Co., Whittier, Calif.
United Steel Companies, Ltd., Sheffield 10, England
Youngstown Sheet & Tube Co., Youngstown, Ohio

ALLOYS—Heat Resisting:
Allegheny Ludlum Steel Corp., Pittsburgh, Pa.
American Steel & Wire Co., Cleveland, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Blaw-Knox Co., Blawnox, Pa.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Cooper Alloy Foundry Co., Hillside, N. J.
International Nickel Co., 67 Wall St., New York, N. Y.
Jadon Equipment Co., 824 Bessemer Bldg., Pittsburgh 22, Pa.
Lukens Steel Co., Coatesville, Pa.
Midvale Co, The, Nicetown, Philadelphia, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Rustless Iron & Steel Div., 3400 E. Chase, Baltimore 13, Md.
Shenango-Penn Mold Co., Dover, Ohio
Wall-Colmonoy Corp., Fisher Bldg., Detroit 2, Mich.

ALLOYS—Molybdenum:
American Manganese Steel Co., 389 E. 14th St., Chicago Heights, Ill.
American Steel & Wire Co., Cleveland, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Carnegie-Illinois Steel Corp., 434 Fifh Ave., Pittsburgh, Pa.
Carpenter Steel Co., Reading, Pa.
Duraloy Co., The, Scottdale, Pa.
Lebanon Steel Foundry, Lebanon, Pa.
Lukens Steel Co., Coatesville, Pa.
Midvale Co., The, Nicetown, Philadelphia, Pa.
Molybdenum Corp. of America, Pittsburgh, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
United Steel Companies, Ltd., Sheffield 10, England
Youngstown Sheet & Tube Co., The, Youngstown, Ohio

ALLOYS—Nickel:
Alan Wood Steel Co., Conshohocken, Pa.
American Brass Co., Waterbury, Conn.
American Manganese Steel Co., 389 E. 14th St., Chicago Heights, Ill.
Bethlehem Steel Co., Bethlehem, Pa.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Philadelphia, Pa.
Carpenter Steel Co., Reading, Pa.
Chase Brass & Copper Co., Waterbury Conn.
Cooper Alloy Foundry Co., The, Elizabeth, N. J.
Duraloy Co., The, Scottdale, Pa.
Duriron Co., The, Inc., Dayton, Ohio
Haynes Stellite Co., Kokomo, Ind.
International Nickel Co., 67 Wall St., New York City
Lukens Steel Co., Coatesville, Pa.
Midvale Co., The, Nicetown, Philadelphia, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
Shenango-Penn Mold Co., Dover, Ohio
United Steel Companies, Ltd., Sheffield 10, England
Wall-Colmonoy Corp., Fisher Bldg., Detroit 2, Mich.
Youngstown Sheet & Tube Co., The, Youngstown, Ohio

ALLOYS—Non-Ferrous:
American Brass Co., Waterbury 88, Conn.
Ampco Metal, Inc., Milwaukee 4, Wis.
Haynes Stellite Co., Kokomo, Ind.
International Nickel Co., 67 Wall St., New York, N. Y.
National Lead Co., 111 Broadway, New York City
Reynolds Metals Co., 2500 S. 3rd St., Louisville 1, Ky.
Shenango-Penn Mold Co., Dover, Ohio
Stoody Co., Whittier, Calif.

AMMONIA:
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
General Chemical Co., 40 Rector St., New York 6, N. Y.
Harshaw Chemical Co., The, Cleveland 6, Ohio
Mathieson Alkali Works, Inc., 60 E. 42nd St., New York City 17
Monsanto Chemical Co., St. Louis, Mo.
Pennsylvania Salt Mfg. Co., Widener Bldg., Philadelphia, Pa.
Pittsburgh Plate Glass, Pittsburgh, Pa.

AMMONIA COMPRESSORS — See COMPRESSORS, Ammonia:

ANCHORS—Guy Line:
Bethlehem Steel Co., Bethlehem, Pa.
Chance, A. B., Co., The, Centralia, Mo.
Copperweld Steel Co., Glassport, Pa.
Everstick Anchor Co., Fairfield, Iowa
Grip-Tite Mfg. Co., Winterset, Iowa
Kearney, James H., Corp., St. Louis, Mo.
Mastergrip Utilities Supply Corp., St. Louis, Mo
Oliver Iron & Steel Corp., 1001 Muriel St., Pittsburgh, Pa.

ANTIKNOCK COMPOUND:
Ethyl Corp., 405 Lexington Ave., N. Y. C.

ANTIOXIDANTS—Gasoline:
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.

ARCHES—Furnace:
Armstrong Cork Co., Lancaster, Pa.
Bigelow-Liptak Corp., 2842 W. Grand Blvd., Detroit 2, Mich.
Carborundum Co., The, Niagara Falls, N. Y.
Detrick, M. H., Co., 111 W. Washington, Chicago 2, Ill.
Furnace Economy Co., 201 N. Wells St., Chicago, Ill.
General Refractories Co., 1600 Real Estate Trust Bldg., Philadelphia, Pa.
Green, A. P., Fire Brick Co., 1801 Railway Exch. Bldg., St. Louis, Mo.
Harbison-Walker Refractories Co., Pittsburgh 22, Pa.
Kellogg Co., The M. W., 225 Broadway, New York City
Laclede Christy Clay Products Co., St. Louis, Mo.
Lumnus Co., The, 420 Lexington Ave., New York City
McLeod & Henry Co., Troy, N. Y.
Mexico Refractories Co., Mexico, Mo.
Plibrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.

ARCHES—Suspended:
Armstrong Cork Co., Lancaster, Pa.

Did you know that more refinery superintendents subscribe to The Oil and Gas Journal than to any other oil publication.

Bigelow-Liptak Corp., 2842 W. Grand Blvd., Detroit 2, Mich.
Chicago Fire Brick Co., 1461 Elston Ave., Chicago 22, Ill.
Detrick, M. H., Co., 111 W. Washington, Chicago 2, Ill.
Furnace Economy Co., 201 N. Wells St., Chicago, Ill.
General Refractories Co., 1600 Real Estate Trust Bldg., Philadelphia, Pa.
Harbison-Walker Refractories Co., Pittsburgh 22, Pa.
Kellogg Co., The M. W., 225 Broadway, New York City 7
Laclede Christy Clay Products Co., St. Louis, Mo.
McLeod & Henry Co., Troy, N. Y.
Mexico Refractories Co., Mexico, Mo.
North American Refractories Co., Cleveland, Ohio
Philbrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.

AROMATIZATION — See PROCESSES, Refining:

ARRESTERS—Lightning:
General Electric Co., Schenectady, N. Y.
Kearney, James R., Corp., St. Louis, Mo.
Kellogg Switchboard & Supply Co., 6650 S. Cicero, Chicago, Ill.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

ARRESTERS—Spark, Engine Exhaust:
Air-Maze Corp., 5200 Harvard Ave., Cleveland, Ohio
Burgess Battery Co., Acoustic Div., 2823-J W. Roscoe St., Chicago, Ill.
Maxim Silencer Co., The, 85 Homestead Ave., Hartford, Conn.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp., 500 Fifth Ave., New York 18, N. Y.

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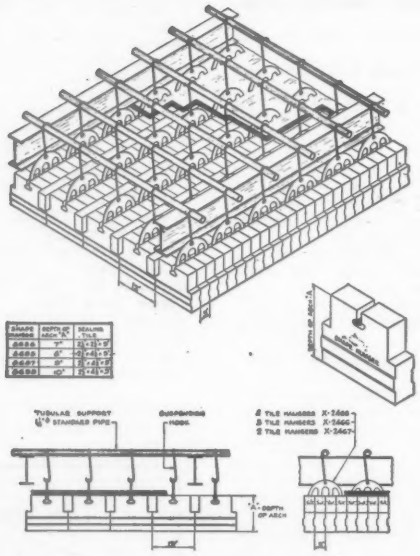

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Vulcan Copper & Supply Co., The, 120 Sycamore, Cincinnati 2, Ohio
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BACK-PRESSURE VALVES—See VALVES, Back-Pressure:

BACKING CLOTH, Wire — See CLOTH, Wire:

BAFFLE TILE—See Tile, Baffle:

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Saginaw Bearing Co., 821 S. Water St., Saginaw, Mich.

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Eagle-Picher Lead Co., The, Cincinnati, Ohio
Federal-Mogul Corp., 11031 Shoemaker St., Detroit 13, Mich.
Gilbert Brass Foundry Co., St. Louis, Mo.
Johnson Bronze Co., New Castle, Pa.
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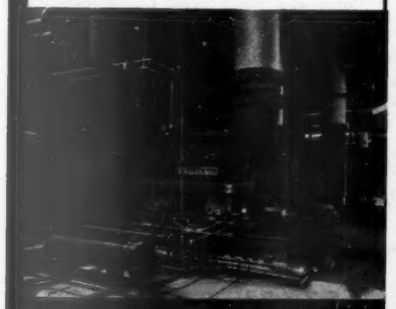

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BLOWOFF VALVES—See VALVES, Blowoff:

BOILER ARCHES and WALLS—See ARCHES or WALLS:

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BOILER FUEL REGULATORS—See REGULATORS, Boiler Fuel:

BOILER TUBE CLEANERS — See TUBE CLEANERS:

BOILER TUBES—See TUBES, Boiler:

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Bird-Archer Co., The, 400 Madison Ave., New York, N. Y.
Elgin Softener Corp., Elgin, Ill.
Hamner, Leland Co., Houston, Tex.
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Eclipse Fuel Engineering Co., Rockford, Ill.
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Farrar & Trefts, Inc., Buffalo, N. Y.
Foster Wheeler Corp., 165 Broadway, New York City
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BREAKERS—Viscosity—See PROCESSES, Refinery:

BREATHERS—Tank—See VALVES, Tank Vent:

BREECHINGS—Boiler:
American Steel Works, 27th & Southwest Blvd., Kansas City 8, Mo.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Chicago Bridge & Iron Co., 332 S. Mich. Ave., Chicago, Ill.
Columbian Steel Tank Co., Kansas City, Mo.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Dallas Tank Co., Inc., 203 W. Commerce St., Dallas, Tex.
Darby Corp., The, 1st & Walker, Kansas City, Kans.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Petroleum Iron Works Div., Pennsylvania Shipyards, Inc., Beaumont, Tex.
Pollock, William B., Co., Youngstown, Ohio
Stearns-Roger Mfg. Co., Denver 2, Colo.
Vulcan Steel Tank Corp., Tulsa, Okla.
Watkins, Inc., 204 N. Waco, Wichita 2, Kans.
Wyatt Metal & Boiler Works, Houston, Tex.

BRICK—Acidproof:
Chemical Construction Corp., 30 Rockefeller Plaza, New York City
Farnam Co., F. D., 4940 W. Flournoy St., Chicago 44, Ill.
General Refractories Co., 1600 Real Estate Trust Bldg., Philadelphia, Pa.
Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh 22, Pa.
Kellogg Co., The M. W., 225 Broadway, New York City
Knight, Maurice A., Co., Akron 9, Ohio
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
Quigley Co., Inc., 56 W. 45th St., New York City
U. S. Stoneware Co., Akron 9, Ohio

BRICK—Fire:
Armstrong Cork Co., Lancaster, Pa.
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Botfield Refractories Co., 776 S. Swanson St., Philadelphia, Pa.
Chicago Fire Brick Co., 1461 Elston Ave., Chicago 22, Ill.
Furnace Economy Co., 201 N. Wells St., Chicago, Ill.
General Refractories Co., 1600 Real Estate Trust Bldg., Philadelphia, Pa.
Green, A. P., Fire Brick Co., Mexico, Mo.

FIREBRICK • plastic

A. P. Green plastic firebrick is Missouri firebrick in plastic form for both complete monolithic linings and speedy patchwork. Manufactured in two grades: SUPER-PLASTIC which meets all four essential qualities for super duty firebrick, and PLASTIC Quik-Pach, a high heat duty plastic firebrick.

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A. P. Green REFRACTORY PRODUCTS
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Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh 22, Pa.
Illinois Clay Products Co., Joliet, Ill.
Johns-Manville Corp., 22 E. 40th St., New York City
Kellogg Co., The M. W., 225 Broadway New York City
Laclede Christy Clay Products Co., St. Louis, Mo.
McLeod & Henry Co., Troy, N. Y.
Mexico Refractories Co., Mexico, Mo.
North American Refractories Co., Cleveland 14, Ohio
Plibrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.
Quigley Co., Inc., 427 Fifth Ave., New York City
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Stein, John G., & Co., Ltd., Bonnybridge, Scotland
U. S. Stoneware Co., Akron 9, Ohio

BRICK—Fire Plastic:
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Botfield Refractories Co., 776 S. Swanson St., Philadelphia, Pa.
General Refractories Co., 1600 Real Estate Trust Bldg., Philadelphia, Pa.
Green, A. P., Fire Brick Co., Mexico, Mo.
Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh 22, Pa.
Illinois Clay Products Co., Joliet, Ill.
Johns-Manville Corp., 22 E. 40th St., New York City
Kellogg Co., The M. W., 225 Broadway, New York City
McLeod & Henry Co., Troy, N. Y.
Stein, John G., & Co., Ltd., Bonnybridge, Scotland
Sullivan Co., The, Memphis, Tenn.
U. S. Stoneware Co., Akron 9, Ohio

BRICK—Insulating:
Armstrong Cork Co., Lancaster, Pa.
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Botfield Refractories Co., 776 S. Swanson St., Philadelphia, Pa.
General Refractories Co., 1600 Real Estate Trust Bldg., Philadelphia, Pa.
Green, A. P., Fire Brick Co., 1801 Railway Exch. Bldg., St. Louis, Mo.

BRICK • insulating

A. P. Green insulating firebrick combine insulating properties, permanent volume and physical strength to provide efficient operation in direct contact with flame and furnace gases. Manufactured for two temperature classifications; G-23 for use at temperatures up to 2300° F. and G-26 for use at temperatures to 2600° F.

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Illinois Clay Products Co., Joliet, Ill.
Johns-Manville Corp., 22 E. 40th St., New York City
Kellogg Co., The M. W., 225 Broadway New York City
Laclede Christy Clay Products Co., St. Louis, Mo.
McLeod & Henry Co., Troy, N. Y.
North American Refractories Co., Cleveland 14, Ohio
Plant Rubber & Asbestos Works, 537 Brannan St., San Francisco 7, Calif.
Plibrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.
Quigley Co., Inc., 527 Fifth Ave., New York City
Refractory & Insulation Corp., 381 Fourth Ave., New York City
Schundler, F. E., Co., Joliet, Ill.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Stein, John G., & Co., Ltd., Bonnybridge, Scotland
Sullivan Co, The, Memphis, Tenn.
Union Asbestos & Rubber Co., 1621 54th Ave., Cicero 50, Ill.
U. S. Stoneware Co., Akron 9, Ohio
Universal Zonolite Insulation Co., 135 La Salle St., Chicago, Ill.

BRICK—Refractory:
Armstrong Cork Co., Lancaster, Pa.
Alberene Stone Corp., 419 Fourth Ave., New York City
Babcock & Wilcox Co., 85 Liberty St., New York City
Bigelow-Liptak Corp., 2842 W. Grand Blvd., Detroit 2, Mich.
Carborundum Co., Niagara Falls, N. Y.
Chicago Fire Brick Co., 1461 Elston Ave., Chicago 22, Ill.
Corhart Refractories Co., 16th and Lee Sts., Louisville, Ky.
General Refractories Co., Philadelphia, Pa.
Green, A. P., Fire Brick Co., 1801 Railway Exch. Bldg., St. Louis, Mo.

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Refractory brick for almost every boiler and industrial need can be had from the famous A. P. Green line. Made from Missouri fireclay—acknowledged everywhere to be the world's finest.

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Johns-Manville Corp., 22 E. 40th St., New York City
Laclede Christy Clay Products Co., St. Louis, Mo.
Mexico Refractories Co., Mexico, Mo.
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
North American Refractories Co., Cleveland 14, Ohio
Stein, John G., & Co., Ltd., Bonnybridge, Scotland
U. S. Stoneware Co., Akron 9, Ohio

BUILDINGS—Sectional Steel:
Allied Steel Products Corp., Tulsa, Okla.
Beers Steel Building Corp., 116 Nassau St., New York City
Blaw-Knox Co., Blawnox, Pa.
Braden Steel Corp., Tulsa, Okla.
Brinkman, Inc., Houston, Tex.
Butler Mfg. Co., Kansas City, Mo.
Columbian Steel Tank Co., Kansas City, Mo.
Great Lakes Steel Corp., Stran Steel Div., Detroit, Mich.
Patterson Steel Co., Tulsa, Okla.

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Standard Steel Corp., Los Angeles, Calif.
Star Mfg. Co., Oklahoma City, Okla.
Truscon Steel Co., Youngstown, Ohio
Watkins, Inc., Wichita, Kans.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.

BUILDINGS—Sectional, Wood:
General Housing Co., Dallas 8, Tex.
Houston Ready Cut, Houston, Tex.
Monroe Co., The, Colfax, Iowa
Southern Mill & Mfg. Co., Tulsa, Okla.

BUBBLE CAPS—See CAPS, Bubble:

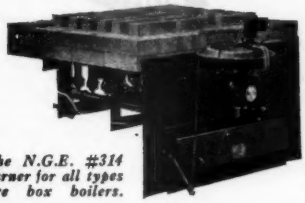
BUBBLE TOWERS—See TOWERS, Bubble:

BUBBLE TRAYS—See TRAYS, Bubble:

BURNERS—Combination, Gas, and Oil:
Alcorn Combustion Co., 15th and Race Sts., Philadelphia, Pa.
Automatic Temperature Control Co., Inc., Philadelphia 44, Pa.
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Best, W. N., Engineering Co., Inc., 90 West St., New York City
Combustion Engineering Co., 200 Madison Ave., New York City
Combustion Equipment Co., Kansas City, Mo.
Coppus Engineering Co., Worcester, Mass.
Enterprise Engine & Foundry Co., 18th & Alabama St., San Francisco, Calif.
Faber Engineering Co., Westmoreland and Amber Sts., Philadelphia, Pa.
Maxon Premix Burner Co., Muncie, Ind.
National Airoil Burner Co., 1236 E. Sedgley Ave., Philadelphia, Pa.
Natural Gas Equipment, Inc., 714 W. Olympic Blvd., Los Angeles, Calif.
Ohio Steel Foundry Co., The, Springfield, Ohio
Parrigin Burners, Dallas, Tex.
Peabody Engineering Corp., 580 Fifth Ave., New York City 19
Red Devil Burner Co., Houston, Tex.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Todd Combustion Equipment, Inc., 601 W. 26th St., New York City
Webster Engr. Co., Div. Surface Combustion Co., Tulsa, Okla.
Zink, John, Co., Tulsa, Okla.

BURNERS—Gas:
Coppus Engineering Co., Worcester, Mass.
Dallas Tank Co., Inc., 203 W. Commerce St., Dallas, Tex.
Eclipse Fuel Engineering Co., Rockford, Ill.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Enterprise Engine & Foundry Co., San Francisco, Calif.
Faber Engineering Co., Westmoreland and Amber St., Philadelphia, Pa.
Forney Engineering Co., Dallas, Tex.
Hunt Tool Co., 1945 St. Bernard St., Houston, Tex.
Inferno Co., Shreveport, La.
Kemp, C. M., Mfg. Co., 405 E. Oliver St., Baltimore 2, Md.
Maxon Premix Burner Co., Muncie, Ind.
National Airoil Burner Co., 1236 E. Sedgley Ave., Philadelphia, Pa.
National Machine Works, 1559 N. Sheffield, Chicago, Ill.
Natural Gas Equipment, Inc., 714 W. Olympic Blvd., Los Angeles, Calif.
Parrigin Burners, Dallas, Tex.
Peabody Engineering Corp., 580 Fifth Ave., New York City 19
Red Devil Burner Co., Houston, Tex.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Sonner Burner Co., The, Winfield, Kans.
Sterling Packing & Gasket Co., Houston, Tex.
Todd Combustion Equipment, Inc., 601 W. 26th St., New York City
Vapor Recovery Systems Co., The, Compton, Calif.
Webster Engr. Co., Div. Surface Combustion Co., Tulsa, Okla.

N.G.E.
GAS BURNERS



The N.G.E. #314 burner for all types fire box boilers.

In the N.G.E. #314 gas burner, the gas is burned in a restricted and localized zone so that a condition of incandescence is maintained. This increases the speed of combustion and effects uniform heat distribution and rapid heat transfer to heating surfaces, as well as permitting a greater BTU release per cubic foot of combustion space.

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for FUEL OIL
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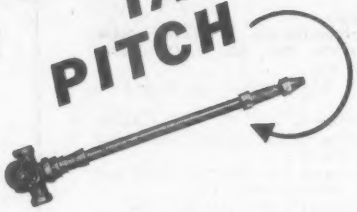
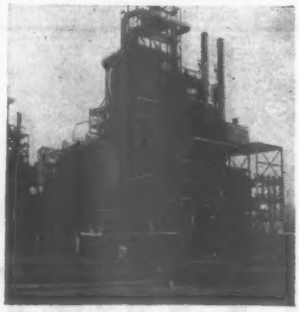
TO BURN TAR AND PITCH



USE THE TYPE SAR
FOR FIRING SHELL STILLS, PIPE HEATERS AND CRACKING FURNACES IN PETROLEUM REFINERIES

This burner will efficiently turn into heat, all the usual grades of industrial oils such as Bunker "C", petroleum cracked residuums, high and medium temperature liquid asphalts, viscous pitches, tars and petrolatums as well as acid or caustic sludges; also fuel oils with a high percentage of solid carbon, dirt or coke in suspension. Steam or natural and by-product gas under pressure are used as atomizing agents. The SAR burner is supplied with a selection of mixing cores for operation with available pressures and temperatures to hold atomizing steam consumption to a minimum.



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1236 East Sedgley Avenue
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Please send me complete information on the Type SAR Oil Burner.

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Well Equipment Mfg. Co., Box 2593, Houston, Tex.
Zink, John, Co., Tulsa, Okla.
Zurn, J. A., Mfg. Co., 1801 Pittsburgh Ave., Erie, Pa.

BURNERS—Oil:
Aeroil Burner Co., Inc., 561 Park Ave., West New York, N. J.
Alcorn Combustion Co., 15th and Race Sts., Philadelphia, Pa.
American Steel Works, Kansas City 8, Mo.
Automatic Temperature Control Co., Inc., Philadelphia 44, Pa.
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Best, W. N., Engineering Co., Inc., 90 West St., New York City
Burt Tank, Separator & Oil Treating Corp., Wichita Falls, Tex.
Combustion Equipment Co., Kansas City, Mo.
Coppus Engineering Co., Worcester, Mass.
Enterprise Engine & Foundry Co., San Francisco, Calif.
Faber Engineering Co., Westmoreland and Amber Sts., Philadelphia, Pa.
Heil Co., The, 3000 W. Montana St., Milwaukee 1, Wis.
Inferno Co., The, Shreveport, La.
National Airoil Burner Co., 1236 E. Sedgley Ave., Philadelphia, Pa.
Natural Gas Equipment, Inc., Los Angeles 15, Calif.
Oil Well Supply Co., Dallas, Tex.
Parrigin Burners, Dallas, Tex.
Peabody Engineering Corp., 580 Fifth Ave., New York City 19
Red Devil Burner Co., Houston, Tex.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Shutte & Koerting Co., 1175 Thompson St., Philadelphia 22, Pa.
Todd Combustion Equipment, Inc., 601 W. 26th St., New York City
Well Equipment Mfg. Co., Houston, Tex.
Zink, John, Co., Tulsa, Okla.

BURNERS—Powdered Fuel:
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Best, W. N., Engineering Co., Inc., 90 West St., New York City
Combustion Engineering Co., 200 Madison Ave., New York City
Foster Wheeler Corp., 165 Broadway, New York City
Peabody Engineering Corp., 580 Fifth Ave., New York City
Whiting Corp., Harvey, Ill.

BURNERS—Sludge:
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Best, W. N., Engineering Co., Inc., 90 West St., New York City
Peabody Engineering Corp., 580 Fifth Ave., New York City
Todd Combustion Equipment, Inc., 601 W. 26th St., New York City
Webster Engr. Co., Div. Surface Combustion Co., Tulsa, Okla.

CABLE—Electrical:
Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
American Steel & Wire Co., Cleveland, Ohio
Chase Brass & Copper Co., Waterbury, Conn.
Copperweld Steel Co., Glassport, Pa.
Federal Telephone & Radio Corp., 67 Broad St., New York 4, N. Y.
General Cable Corp., White Plains, N .Y.
General Electric Co., Schenectady, N. Y.
Okonite Co., The, Passaic, N. J.
Roebling's, John A., Sons Co., Trenton, N. J.
U. S. Rubber Co., 1230 Sixth Ave., New York City
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

CALORIMETERS:
American Meter Co., 60 East 42nd St., New York City 17
Ellison Draft Gage Co., 214 W. Kinzie St., Chicago 26, Ill.

Leeds & Northrup Co., Philadelphia, Pa.
Refinery Supply Co., Tulsa, Okla.
Schaar & Co., 754 W. Lexington, Chicago, Ill.

CAPACITORS:
Federal Telephone & Radio Corp., 67 Broad St., New York 4, N. Y.
General Electric Co., Schenectady, N. Y.
Kellogg Switchboard & Supply Co., 6650 S. Cicero, Chicago, Ill.
Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.

CAPS—Bubble:
American Locomotive Co., Alco Products Div., 30 Church St., New York City
Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
Badger, E. B., & Sons, Co., Boston, Mass.
Beaird Corp., J. B., Shreveport, La.
Biggs Boiler Works, The, Akron, Ohio
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Blickman, S. Inc., Weehawken, N. J.
Braun, C. F., & Co., Inc., Alhambra, Calif.
Columbian Steel Tank Co., Kansas City, Mo.
Devine, J. P., Mfg. Co., Mount Vernon, Ill.
Duraloy Co., The, Scottdale, Pa.
Duriron Co., The, Inc., Dayton, Ohio
Fluor Corp., Ltd., Box 7030, Los Angeles, Calif.
Hadfields Ltd., East Hecla Works, Sheffield, England
Head, Wrightson & Co., Ltd., London, S.W.I., England
Hudson Engineering Co., Houston, Tex.
Kellogg Co., The M. W., 225 Broadway New York City
Kinney Iron Works, 2525 E. 49th St., Los Angeles, Calif.
Lukens Steel Co., Coatesville, Pa.
Meehanite Metal Corp., New Rochelle, N. Y.
McKee, Arthur G., & Co., Cleveland, Ohio
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
Ohio Steel Foundry Co., The, Springfield, Ohio
Porter, H. K., Co., Inc., 1932 Oliver St., Pittsburgh 22, Pa.
Pressed Steel Co., The, Wilkes-Barre, Pa.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Ross-Meehan Foundries, Chattanooga, Tenn.
Sivyer Steel Casting Co., Milwaukee, Wis.
Solar Aircraft Co., San Diego, Calif.
Southwestern Engineering Co., Los Angeles, Calif.
Stearns-Roger Mfg. Co., Denver 2, Colo.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vulcan Copper & Supply Co., The, 120 Sycamore, Cincinnati 2, Ohio
Watkins, Inc., Wichita, Kans.
Wheland Co., The, Chattanooga, Tenn.
Winkler-Koch Engineering Co., Wichita, Kans.
Wyatt Metal & Boiler Works, Houston, Tex.

CAPS, Welding—See FITTINGS, Welding:

CASTABLES:
General Refractories Co., 1600 Real Estate Trust Bldg., Philadelphia, Pa.
Green, A. P., Fire Brick Co., 1801 Railway Exch. Bldg., St. Louis, Mo.
Harbison-Walker Refractories Co., Pittsburgh, Pa.
Johns-Manville Corp., 22 E. 40th St., New York City
Mexico Refractories Co., Mexico, Mo.
North American Refractories Co., Cleveland 14, Ohio
Plibrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.

CASTINGS—Acid-Resisting:
Allegheny Ludlum Steel Corp., Brackenridge, Pa.
Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
Aluminum Industries, Inc., Cincinnati, Ohio
American Manganese Steel Div., 389 E. 14th St., Chicago Heights, Ill.
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Bethlehem Steel Co., Bethlehem, Pa.
Blaw-Knox Co., Blawnox, Pa.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Chain Belt Co., Milwaukee, Wis.
Duraloy Co., The, Scottdale, Pa.
Duriron Co., The, Inc., Dayton, Ohio
Enterprise Engine & Foundry Co., San Francisco, Calif .
Farrel-Birmingham Co., Inc., 344 Vulcan St., Buffalo, N. Y.
Goslin Birmingham Mfg. Co., Inc., 350 Madison Ave., New York City
Hadfields Ltd., East Hecla Works, Sheffield, England
Haynes Stellite Co., Kokomo, Ind.
Jeffrey Mfg. Co., The, Columbus, Ohio
Kellogg, The M. W., Co., 225 Broadway, New York 7, N. Y.
Lebanon Steel Foundry, Lebanon, Ohio
Link-Belt Co., 220 S. Belmont Ave., Indianapolis, Ind.
Sivyer Steel Casting Co., Milwaukee, Wis.
Stearns-Roger Mfg. Co., Denver 2, Colo.
St. Louis Steel Casting Co., 100 Mott St., St. Louis 11, Mo.
Wheatley Brothers, Tulsa, Okla.

CASTINGS—Alloy Steel:
American Cast Iron Pipe Co., Birmingham 2, Ala.
American Manganese Steel Div., 389 E. 14th St., Chicago Heights, Ill.
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Bethlehem Steel Co., Bethlehem, Pa.
Blaw-Knox Co., Blawnox, Pa.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Duraloy Co., The, Scottdale, Pa.
Duriron Co., The, Inc., Dayton, Ohio
Enterprise Engine & Foundry Co., San Francisco, Calif.
Falk Corp., Milwaukee, Wis.
Hadfields Ltd., East Hecla Works, Sheffield, England
Haynes Stellite Co., Kokomo, Ind.
Head, Wrightson & Co., Ltd., London S.W.I., England
Key Co., East St. Louis, Ill.
Lebanon Steel Foundry, Lebanon, Pa.
Michiana Products Corp., Michigan City, Ind.
Midvale Co., The, Nicetown, Philadelphia, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Oklahoma Steel Castings Co., Tulsa, Okla.
Reading Steel Castings Div. of American Chain & Cable Co., Inc., Reading, Pa.
Ross-Meehan Foundries, Chattanooga, Tenn.
Sivyer Steel Casting Co., Milwaukee, Wis.
Solar Aircraft Co., 1212 W. Juniper St., San Diego 12, Calif.
St. Louis Steel Casting Co., St. Louis, Mo.
Texas Electric Steel Casting Co., Bringhurst & Gillespie Sts., Houston, Tex.

CASTINGS—Brass or Bronze:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Ampco Metals, Inc., Milwaukee 4, Wis.
Beryllium Corp. of Pa., Reading, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Bunting Brass & Bronze Co., Toledo, Ohio
Chase Brass & Copper Co., Waterbury, Conn.
Condenser Service & Eng. Co., Inc., Hoboken, N. J.
Flagg, Stanley G., and Co., 1421 Chestnut St., Philadelphia, Pa.
Grinnell Co., Inc., 260 W. Exchange St., Providence 1, R. I.
Jeffrey Mfg. Co., The, Columbus, Ohio
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Link-Belt Co., 220 S. Belmont Ave., Indianapolis, Ind.
McGill Mfg. Co., Valparaiso, Ind.
Manistee Iron Works, Manistee, Mich.
Morrison Brothers, Dubuque, Iowa
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Progressive Brass Mfg. Co., Tulsa, Okla.
Saginaw Bearing Co., 821 S. Water St., Sagniaw, Mich.
Scovill Mfg. Co., Waterbury, Conn.
Wheatley Brothers, Tulsa, Okla.

CASTINGS—Gray Iron and Semisteel:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Alten's Foundry & Machine Works, Lancaster, Ohio
American Car & Foundry Co., 30 Church St., New York City
American Cast Iron Pipe Co., Birmingham 2, Ala.
American Locomotive Co., 30 Church St., New York City
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Busch Sulzer Bros., Diesel Engine Co., St. Louis, Mo.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Chain Belt Co., Milwaukee 4, Wis.
Chance, A. B., Co., The, Centralia, Mo.
Combustion Engineering Corp., 200 Madison Ave., New York City
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Enterprise Engine & Foundry Co., San Francisco, Calif.
Farrel-Birmingham Co., Inc., 344 Vulcan St., Buffalo, N. Y.
Goslin Birmingham Mfg. Co., Inc., 350 Madison Ave., New York City
Grinnell Co., Inc., 260 W. Exchange St., Providence 1, R. I.
Jeffrey Mfg. Co., The, Columbus, Ohio
Kinney Iron Works, Los Angeles, Calif.
Koppers Co., Koppers Bldg., Pittsburgh, Pa.

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Murray Iron Works Co., Burlington, Iowa
National Radiator Co., The, Johnstown, Pa.
Novo Engine Co., 702 Porter, Lansing, Mich.
Ottuma Iron Works, Ottuma, Iowa
Reading Steel Casting Div., American Chain & Cable Co., Inc., Reading, Pa.
Ross-Meehan Foundries, Chattanooga, Tenn.
Shenango-Penn Mold Co., Dover, Ohio
Sheppard, R. H., Co., Hanover, Pa.
Stearns-Roger Mfg. Co., Denver 2, Colo.
Texas Foundries, Inc., Lufkin, Texas.
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Wheland Co., Chattanooga, Tenn.
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Bethlehem Steel Co., Bethlehem, Pa.
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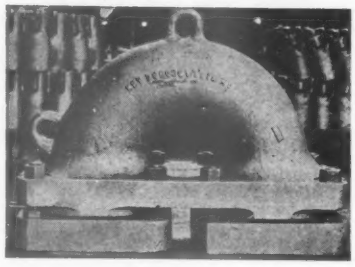

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Kellogg Co., The M. W., 225 Broadway, New York City 7
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Lucas, Robert M., Co., 1955 W. 31st St., Chicago, Ill.
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Mundet Cork Corp., Brooklyn, N. Y.
Owens-Corning Fiberglas Corp., Toledo 1, Ohio
Plant Rubber & Asbestos Works, 537 Brannan St., San Francisco 7, Calif.
Plibrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.
Quigley Co., Inc., 527 Fifth Ave., New York City
Refractory & Insulation Corp., 381 Fourth Ave., New York City
Ruberoid Co., 500 Fifth Ave., New York City 18
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Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
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U. S. Stoneware Co., Akron 9, Ohio
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X-Pando Corp., Long Island City, N. Y.

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Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh 22, Pa.
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CENTRIFUGAL PUMPS—See PUMPS, Centrifugal:

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Schaar & Co., 754 W. Lexington, Chicago, Ill.

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International Equipment Co., 352 Western Ave., Boston 35, Mass.
Precision Scientific Co., 1750 N. Springfield Ave., Chicago, Ill.
Refinery Supply Co., The, Tulsa, Okla.

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Morse Chain Co., Ithaca, N. Y.
Union Chain & Mfg. The, Sandusky, Ohio
Whitney Chain & Manufacturing Co., Hartford, Conn.

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Baldwin-Duckworth Div., West Springfield, Mass.
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Diamond Chain & Mfg. Co., Indianapolis, Ind.
Emsco Derrick & Equipment Co., Los Angeles, Calif.
Jeffrey Mfg. Co., The, Columbus, Ohio
Link-Belt Co., 220 S. Belmont Ave., Indianapolis 6, Ind.
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Drew, E. F., and Co., 15 E. 26th St., New York, N. Y.
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
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Haering, D. W., & Co., Chicago, Ill.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
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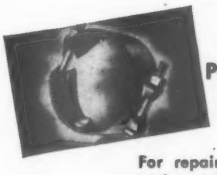
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Pittsburgh Plate Glass Co., Columbia Chemical Div., Pittsburgh, Pa.
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Skinner, M. B., Co., South Bend, Ind.
Stearns-Roger Mfg. Co., Denver 2, Colo.
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Earthen Products, Inc., Houston, Tex.
Filtrol Corp., 634 S. Spring St., Los Angeles 14, Calif.
Floridin Co., Warren, Pa.
Illinois Minerals Co., Cairo, Ill.
Opper, F. H., Inc., Savannah, Ga.
U. S. Stoneware Co., Akron, Ohio

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Chicago Fire Brick Co., 1461 Elston Ave., Chicago 22, Ill.
Eastern Clay Products, Inc., Eifort, Ohio
General Refractories Co., Philadelphia, Pa.
Green, A. P., Fire Brick Co., Mexico, Mo.
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Mexico Refractories Co., Mexico, Mo.
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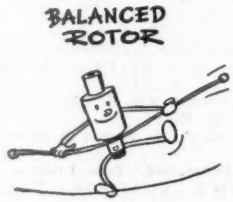

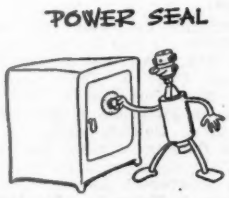

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Manufacturers Brush Co., 1251 Elmwood Ave., Cleveland, Ohio
Oakite Products, Inc., 22 Thomas St., New York City
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Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Reilly Tar & Chemical Co., Merchants Bank Bldg., Indianapolis, Ind.
Roto Co., Newark, N. J.
Wilson, Thomas C., Inc., 4728 37th St., Long Island City, N. Y.

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Southern Refractories Co., Fort Payne, Ala.

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Earthen Products, Inc., Houston, Tex.
Filtrol Corp., 634 S. Spring St., Los Angeles 14, Calif.
Floridin Co., Warren, Pa.
Opper, F. H., Inc., Savannah, Ga.

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Columbia Alkali Corp., 30 Rockefeller Plaza, New York City
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Diamond Alkali Co., Pittsburgh, Pa.
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
Hamner, Leland, Co., Houston, Tex.
Homestead Valve Mfg. Co., Coraopolis, Pa., Box 18
Houghton, E. F., & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.
Kelite Products, Inc., 909 East 30th St., Los Angeles 1, Calif.
Magnus Chemical Co., Garwood, N. J.
Oakite Products, Inc., 22 Thames St., New York City 6
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
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CLOTH, Filter—See FILTER CLOTH:

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Chase Brass & Copper Co., Waterbury, Conn.
Cyclone Fence Division of American Steel & Wire Co., Stanley Ave., North Chicago, Ill.
Michigan Wire Cloth Co., 2100 Howard, Detroit 16, Mich.
Multi-Metal Wire Cloth Co., Inc., 1350 Garrison Ave., Bronx, New York City
Newark Wire Cloth Co., Newark, N. J.
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Roebling's, John A., Sons Co., Trenton, N. J.
Ryerson, Jos. T., & Sons, 2558 W. 16th Chicago, Ill.
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COATINGS — High-Temperature — See INSULATION:

COATINGS — Pipe — See PROTECTIVE COATINGS, Pipe:

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Dearborn Chemical Co., 310 S. Michigan Ave., Chicago, Ill.
Eagle-Picher Lead Co., The, Cincinnati, Ohio
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Horn, A. C., Co., Houston, Tex.
Johns-Manville Corp., 22 E. 40th St., New York City
Kellogg Co., The M. W., 225 Broadway, New York 7, N. Y.
Laclede Christy Clay Products Co., St. Louis, Mo.
Lucas, Robert M., Co., 1955 W. 31st St., Chicago, Ill.
Maintenance, Inc., Wooster, Ohio
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Bristol Co., The, Waterbury, Conn.
Crosby Steam Gage & Valve Co., 165 Broadway, New York City
Detroit Brass & Malleable Works, 100 S. Campbell Ave., Detroit, Mich.
Ernst Water Column & Gage Co., Livingston, N. J.
Inferno Co., Shreveport, La.
Jerguson Gage & Valve Co., Somerville, Mass.
Klinger, Richard, Ltd., Sidcup (Kent), England
Lonergan, J. E., Co., Philadelphia, Pa.
Newman, Hender & Co., Ltd., Woodchester., Glos., England
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Powell, Wm., Co., The, Cincinnati 22, Ohio
Star Brass Mfg. Co., 108 E. Dedham, Boston 18, Mass.
Swift Lubricator Co., Elmira, N. Y.

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Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Detroit Brass & Malleable Works, 100 S. Campbell Ave., Detroit, Mich.
Mueller Co., Decatur, Ill.
National Airoil Burner Co., 1236 E. Sedgley Ave., Philadelphia, Pa.
National Transit Pump & Machine Co., Oil City, Pa.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Nordstrom Valve Co., 400 Lexington Ave., Pittsburgh, Pa.
Pittsburgh Valve & Fittings Corp., Barberton, Ohio
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COILS, Pipe—See PIPE COILS:

COLUMNS—Water, Safety-Alarm:

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Jerguson Gage & Valve Co., Somerville, Mass.
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.
Magnetrol, Inc., 325 W. Huron St., Chicago 10, Ill.
Shand & Jurs Co., Berkeley, Calif.
Williams Gauge Co., 1620 Pennsylvania Ave., Pittsburgh 22, Pa.
Wright-Austin Co., 315 W. Woodbridge, Detroit, Mich.
Yarnall-Waring Co., Chestnut Hill, Philadelphia 18, Pa.

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Harshaw Chemical Co., The, Cleveland 6, Ohio
Horn, A. C., Co., Houston, Tex.
Jenkins Brothers, 80 White St., New York City
Key Co., East St. Louis, Ill.
McDonald, A. Y., Mfg. Co., Dubuque, Iowa
Nukem Products Corp., 70 Niagara, Buffalo, N. Y.
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Quigley Co., Inc., 527 Fifth Ave., New York City
Rector Well Equip. Co., Fort Worth, Tex.
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Rockwood Sprinkler Co., Worcester, Mass.
Smooth-On Mfg. Co., Jersey City, N. J.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sullivan Co., The, Memphis, Tenn.
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Well Equipment Mfg. Co., Box 2593, Houston, Tex.
X-Pando Corp., 43-15 36th St., Long Island City, N. Y.

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Carrier Corp., Syracuse, N. Y.
Chicago Pneumatic Tool Co., 6 E. 44th St., New York City 17
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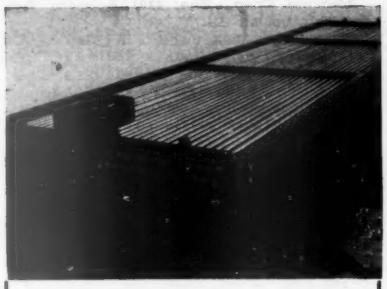

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Lummus Co., 420 Lexington Ave., New York City 17
National Radiator Co., The, Johnstown, Pa.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Ross Heater & Mfg. Co., Buffalo, N. Y.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia, Pa.
Standard Steel Corp., Los Angeles, Calif.
Struthers-Wells, Warren, Pa.
Western Supply Co., Tulsa, Okla.
Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

CONDENSERS—Fractional:

American Locomotive Co., Alco Products Div., 30 Church St., New York City
Ampco, Engineering & Construction Co., Dallas, Tex.
Bethlehem Steel Co., Bethlehem, Pa.
Brown Fintube Co., The, Elyria, Ohio
Coy Co., Jos. A., Inc., Tulsa, Okla.
Engineers & Fabricators, Inc., Houston, Tex.
Foster Wheeler Corp., 165 Broadway, New York City
Griscom-Russell Co., The, 285 Madison Ave., New York City
Hudson Engineering Co., Houston, Tex.
Kellogg Co., The M. W., 225 Broadway, New York City
Leach, C. H., Co., 117 Liberty St., New York City
Lummus Co., 420 Lexington Ave., New York City
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Southwestern Engineering Co., Los Angeles, Calif.
Tulsa Boiler & Machinery Co., Tulsa Okla.
Western Supply Co., Tulsa, Okla.
Whitlock Mfg. Co., The, Hartford, Conn.
Zallea Bros. & Johnson, 890 Locust St., Wilmington, Del.

CONDENSERS—Reflux:

American Locomotive Co., Alco Products Div., 30 Church St., New York City
Brown Fintube Co., The, Elyria, Ohio
Coy Co., Jos. A., Inc., Tulsa, Okla.
Devine, J. P., Mfg. Co., Mount Vernon, Ill.
Engineers & Fabricators, Inc., Houston, Tex.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
Graham Mfg. Co., Inc., 415 Lexington Ave., New York City 17
Griscom-Russell Co., The, 285 Madison Ave., New York City
Head, Wrightson & Co., Ltd., London S.W.I., England
Kellogg Co., The M. W., 225 Broadway, New York City 7
Leader Iron Works, Inc., Decatur 60, Ill.
Lummus Co., The, 420 Lexington Ave., New York City
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson-Kelley Co., Inc., East Stroudsburg, Pa.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia, Pa.
Southwestern Engineering Co., Los Angeles, Calif.
Struthers-Wells, Warren, Pa.
Tulsa Boiler & Machinery Co., Tulsa Okla.
Vulcan Copper & Supply Co., The, 120 Sycamore, Cincinnati 2, Ohio
Western Supply Co., Tulsa, Okla.
Whitlock Mfg. Co., The, Hartford, Conn.

CONDENSERS—Sectional:

American Locomotive Co., Alco Products Div., 30 Church St., New York City
Ampco, Engineering & Construction Co., Dallas, Tex.
Beaird Corp., J. B., Shreveport, La.
Brown Fintube Co., The, Elyria, Ohio
Columbian Steel Tank Co., Kansas City, Mo.
Coy Co., Jos. A., Inc., Tulsa, Okla.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Gasoline Plant Construction Corp., Houston, Tex.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Griscom-Russell Co., The, 285 Madison Ave., New York City
Hudson Engineering Co., Houston, Tex.
Leader Iron Works, Inc., Decatur 60, Ill.
Lummus Co., 420 Lexington Ave., New York City
National Radiator Co., Johnstown, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Patterson-Kelley Co., Inc., East Stroudsburg, Pa.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Southwestern Engineering Co., Los Angeles, Calif.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Western Supply Co., Tulsa, Okla.

CONDENSERS—Submerged:

American Locomotive Co., Alco Products Div., 30 Church St., New York City
Brown Fintube Co., The, Elyria, Ohio
Coy Co., Jos. A., Inc., Tulsa, Okla.
Engineers & Fabricators, Inc., Houston, Tex.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Griscom-Russell Co., The, 285 Madison Ave., New York City
Hudson Engineering Co., Houston, Tex.
Leader Iron Works, Inc., Decatur 60, Ill.
Lummus Co., 420 Lexington Ave., New York City
National Radiator Co., Johnstown, Pa.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Tulsa Boiler & Machinery Co., Tulsa Okla.
Vogt, Henry, Machine Co., Louisville, Ky.
Western Supply Co., Tulsa, Okla.

CONDENSERS—Surface:

American Locomotive Co., Alco Products Div., 30 Church St., New York City
Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
Ampco Engineering & Construction Co., Dallas, Tex.
Brown Fintube Co., The, Elyria, Ohio
Carrier Corp., Syracuse, N. Y.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Croll-Reynolds Engineering Co., 17 John St., New York City
Devine, J. P., Mfg. Co., Mount Vernon, Ill.
Elliott Co., Jeannette, Pa.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.

Griscom-Russell Co., The, 285 Madison Ave., New York 17, N. Y.
Head Wrightson & Co., Ltd., London S.W.I., England
Heat Transfer Products, Inc., Box 516, Carbondale, Pa.
Hendrick Mfg. Co., Carbondale, Pa.
Hudson Engineering Co., Houston, Tex.
Ingersoll-Rand Co., 11 Broadway, New York City 4
Kellogg Co., The M. W., 225 Broadway, New York City
Leader Iron Works, Inc., Decatur 60, Ill.
Lummus Co., 420 Lexington Ave., New York City 17
National Radiator Co., Johnstown, Pa.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburg 22, Pa.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Schutte-Koerting Co., 1175 Thompson St., Philadelphia, Pa.
Southwestern Engineering Co., Los Angeles, Calif.
Vogt, Henry, Machine Co., Louisville 10, Ky.
Vulcan Copper & Supply Co., The, 120 Sycamore, Cincinnati 2, Ohio
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Western Supply Co., Tulsa, Okla.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Whitlock Mfg. Co., The, Hartford, Conn.
Worthington Pump & Machinery Corp., Harrison, N. J.
Young Radiator Co., Racine, Wis.
Zallea Bros. & Johnson, 816 Locust St., Wilmington, Del.

CONDUIT—Asbestos:
Johns-Manville Corp., 22 E. 40th St., New York City

CONDUIT—Steel (Electric Wiring):
American Locomotive Co., 30 Church St., New York, N. Y.
Federal Telephone & Cable Corp., 67 Broad St., New York 4, N. Y.
General Electric Co., Schenectady, N. Y.
Spang-Chalfant Div., National Supply Co., Pittsburgh, Pa.
Steel & Tubes Division, Republic Steel Corp., Cleveland, Ohio
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Youngstown Sheet & Tube Co., The, Youngstown, Ohio

CONNECTORS—Electrical:
Cannon Elec. Dev. Co., Los Angeles 31, Calif.
Burndy Engineering Co., Inc., 107 Bruckner Blvd., New York 54, N. Y.

CONSERVATION EQUIPMENT — Vapor — See VAPOR-CONSERVATION EQUIPMENT:

CONSTRUCTION—Natural-Gasoline Plant—See ENGINEERING and CONSTRUCTION, Natural-Gasoline Plant:

CONSTRUCTION — Refinery — See ENGINEERING and CONSTRUCTION Refinery:

CONTACT FILTRATION EQUIPMENT:
Dallas Tank Co., Inc., 203 W. Commerce St., Dallas, Tex.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.

CONTROLLERS—Automatic:
American Meter Co., Inc., 60 East 42nd St., New York 17, N. Y.
Bradley, Allen, 1326 S. Second St., Milwaukee, Wis.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Cash, A. W., Co., 445 N. 48th St., Decatur, Ill.
Electric Controller & Mfg. Co., Cleveland, Ohio
Fisher Governor Co., Marshalltown, Iowa
Foxboro Co., The, Foxboro, Mass.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Leeds & Northrup Co., Philadelphia, Pa.
McAlear Mfg. Co., 1901 S. Western Ave., Chicago, Ill.
Mercoid Corp., The, 4201 Belmont Ave., Chicago 41, Ill.
Penn Electric Switch Co., Goshen, Ind.
Republic Flow Meters Co., 2240 W. Diversey, Chicago 47, Ill.
Synchro-Start Products, Inc., 1046 W. Fullerton Ave., Chicago 14, Ill.
Westinghouse Electric Corp., Pittsburgh 30, Pa.

CONTROLS—Air-Operated:
American Meter Co., Inc., 60 East 42nd St., New York 17, N. Y.
Automatic Temperature Control Co., Inc., Philadelphia 44, Pa.
Belfield Co., H., Philadelphia, Pa.
Bradley, Allen, 1326 S. Second St., Milwaukee, Wis.
Bristol Co., The, Waterbury, Conn.
Brooks Rotameter Co., Lansdale, Pa.
Brown Instrument Co., Philadelphia 44, Pa.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., 109 Monroe St., Newark, N. J.
Foxboro Co., The, Foxboro, Mass.
General Controls Co., Glendale, Calif.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Keckley, O. C., Co., 400 W. Madison Ave., Chicago 6, Ill.
Kent, George, Ltd., Luton Bedfordshire, England
McAlear Mfg. Co., 1901 S. Western Ave., Chicago, Ill.
Mason Neilan Reguators Co., 1190 Adams St., Boston, Mass.
Mercoid Corp., The, 4201 Belmont Ave., Chicago 41, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Moore Products Co., Philadelphia 24, Pa.
Republic Flow Meters Co., Chicago, Ill.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Taylor Instrument Companies, Rochester, N. Y.
Westinghouse Air Brake Co., Wilmerding. Pa.

CONTROLS—Automatic:
American Meter Co., Inc., 60 East 42nd St., New York 17, N. Y.
Automatic Electric Co., 1033 W. Van Buren St., Chicago 7, Ill.
Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Belfield Co., H., Philadelphia, Pa.
Bradley, Allen, 1326 S. Second St., Milwaukee, Wis.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Cutler-Hammer, Inc., Milwaukee, Wis.
Detroit Lubricator, 5900 Trumbull Ave., Detroit, Mich
Fischer & Porter Co., Hatboro, Pa.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., 109 Monroe St., Newark, N. J.
Foster Wheeler Corp., 165 Broadway, New York City
Foxboro Co., The, Foxboro, Mass.
Fulton Sylphon Co., The, Knoxville, Tenn.
General Controls Co., Glendale, Calif.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
Inferno Co., The, Shreveport, La.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Kent, George, Ltd., Luton, Bedfordshire, England
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.
McAlear Mfg. Co., 1901 S. Western Ave., Chicago, Ill.
Mercoid Corp., The, 4201 Belmont Ave., Chicago 41, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Moore Products Co., Philadelphia, Pa.
Murphy, Frank W. Mfr., 6209 E. Admiral Pl., Tulsa, Okla.
Nelson Automatic Gauge Co., 402 Oklahoma Nat'l Gas Bldg., Tulsa 3, Okla.
Penn Electric Switch Co., Goshen, Ind.
Republic Flow Meters Co., Chicago, Ill.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Sarco Co., Inc., 475 Fifth Ave., New York City
Taylor Instrument Companies, Rochester, N. Y.

CONTROLS—Boiler Feed-Water—See REGULATORS, Boiler Feed-Water:

CONTROLS — Boiler-Fuel — See REGULATORS, Boiler-Fuel:

CONTROLS—Draft:
Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Cash, A. W., Co., Decatur, Ill.
D'Este Div., American Chain & Cable Co., Inc., Bridgeport, Conn.
Foxboro Co., Foxboro, Mass.
General Controls Co., Glendale, Calif.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Hays, A. M., Corp., Michigan City, Ind.
Kent, George, Ltd., Luton, Bedfordshire, England
Mason Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Mercoid Corp., The, 4201 Belmont, Chicago, Ill.
Republic Flow Meters Co., Chicago, Ill.

CONTROLS—Electric-Motor:
Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Bradley, Allen, Milwaukee, Wis.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cutler-Hammer, Inc., Milwaukee, Wis.
Electric Controller & Mfg. Co., 2698 E. 79th St., Cleveland, Ohio
Electric Machinery Mfg. Co., 1331 Tyler St., N.E., Minneapolis, Minn.
The Foxboro Co., Foxboro, Mass.
General Controls Co., Glendale, Calif.
General Electric Co., Schenectady, N. Y.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
Harnischfeger Corp., Milwaukee, Wis.
Ideal Electric & Manufacturing Co., Mansfield, Ohio
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Nelson Electric Mfg. Co., Tulsa, Okla.
Penn Electric Switch Co., Goshen, Ind.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Reynolds Electric Co., 2650 W. Congress St., Chicago 12, Ill.
Simplex Valve & Meter Co., 68th and Upland Sts., Philadelphia, Pa.
Westinghouse Electric Corp., East Pittsburgh, Pa.

CONTROLS—Flow:
American Meter Co., 60 East 42nd St., New York City 17
Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.

Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Farris Engineering Co., Palisades Park, N. J.
Fisher Governor Co., Marshalltown, Iowa
Foster Wheeler Corp., 165 Broadway, New York City
Foxboro Co., Foxboro, Mass.
General Controls Co., Glendale, Calif.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Kent, George, Ltd., Luton, Bedfordshire, England
Leeds & Northrup Co., Philadelphia, Pa.
Lorraine Corp., The, 11510 S. Alameda St., Los Angeles 2, Calif.
McDonnell & Miller, Wrigley Bldg., Chicago, Ill.
Mason Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Moore Products Co., Philadelphia 24, Pa.
Republic Flow Meters Co., Chicago, Ill.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Taylor Instrument Companies, Rochester, N. Y.
Trimount Inst. Co., 37 W. Van Buren St., Chicago 5, Ill.
Wescott & Greis, Inc., Kennedy Bldg., Tulsa, Okla.
Wheelco Instruments Co., Harrison and Peoria Sts., Chicago, Ill.

CONTROLS—Liquid-Level:
American Meter Co., 60 East 42nd St., New York City 17
Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Belfield, H., Co., Philadelphia, Pa.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Bradley, Allen, Milwaukee, Wis.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Cash, A. W., Co., Decatur, Ill.
Chaplin-Fulton Mfg. Co., 28-40 Penn Ave., Pittsburgh, Pa.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Daniel Orifice Fitting Co., 3352 Union Pacific Ave., Los Angeles, Calif.
Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Fisher Governor Co., Marshalltown, Iowa
Foster Wheeler Corp., 165 Broadway, New York City
Foxboro Co., Foxboro, Mass.
Frick Co., Waynesboro, Pa.
General Controls Co., Glendale, Calif.
General Electric Co., Schenectady, N. Y.
Griscom-Russell Co., The, 285 Madison Ave., New York City 17
Guardian Electric Co., 1623 W. Walnut, Chicago, Ill.
Inferno Co., Shreveport, La.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Kent, George, Ltd., Luton, Bedfordshire, England
Kieley & Mueller, Inc., North Bergen, N. J.
McAlear Mfg. Co., 1901 S. Western, Chicago, Ill.
Magnetrol, Inc., 325 W. Huron St., Chicago 10, Ill.
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Mason Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Mercoid Corp., The, 4201 Belmont, Chicago 41, Ill.
Moore Products Co., Philadelphia 24, Pa.
Natural Gas Equipment, Inc., 714 W. Olympic Blvd., Los Angeles, Calif.
Nelson Automatic Gauge Co., 402 Oklahoma Natural Gas Bldg., Tulsa 3, Okla.
Northern Equipment Co., Erie, Pa.
Penn Electric Switch Co., Goshen, Ind.
Republic Flow Meters Co., Chicago, Ill.
Ruggles Klingemann Mfg. Co., Salem, Mass.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Sarco Co., Inc., 475 Fifth Ave., New York City 17
Simplex Valve & Meter Co., 68th and Upland Sts., Philadelphia, Pa.
Spence Engineering Co., Inc., Walden, N. J.
Square D Co., Milwaukee, Wis.
Stephens-Adamson Mfg. Co., Aurora, Ill.
Tagliabue, C. J., Mfg. Co., Park Ave. and Nostrand Ave., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trimount Inst. Co., 37 W. Van Buren St., Chicago 5, Ill.
Webster Engineering Co., Tulsa, Okla.
Wescott-Greis, Inc., Kennedy Bldg., Tulsa, Okla.
Wheelco Instruments Co., Harrison and Peoria Sts., Chicago, Ill.

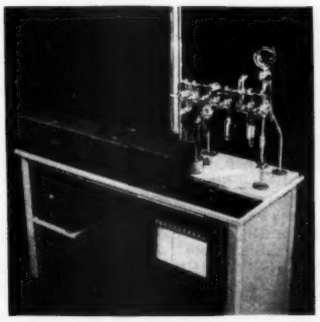
CONTROLS—Motor-Operated:
Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Belfield Co., H., Philadelphia, Pa.
Bradley, Allen, Milwaukee, Wis.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Cutler-Hammer, Inc., Milwaukee, Wis.
Foote Bros. Gear & Machine Corp., Chicago, Ill.
Foster Wheeler Corp., 165 Broadway, New York City
Foxboro Co., Foxboro, Mass.
General Controls Co., Glendale, Calif.
General Electric Co., Schenectady, N. Y.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
McAlear Mfg. Co., 1901 S. Western Ave., Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Reynolds Electric Co., 2650 W. Congress St., Chicago 12, Ill.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Simplex Valve & Meter Co., 68th and Upland Sts., Philadelphia, Pa.
Webster Engineering Co., Tulsa, Okla.
Wheelco Instruments Co., Harrison and Peoria Sts., Chicago, Ill.

CONTROLS—pH:
Bristol Co., The, Hartford, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Foxboro Co., Foxboro, Mass.
Harshaw Chemical Co., The, Cleveland 6, Ohio
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
National Technical Laboratories, South Pasadena, Calif.

CONTROLS—Pressure:
Atlas Valve Co., 276 South St., Newark, N. J.
Automatic Temperature Control Co., Inc., Philadelphia 44, Pa.
Belfield Co., H., Philadelphia, Pa.
Bradley, Allen, Milwaukee, Wis.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Cash, A. W., Co., Decatur, Ill.
Chaplin-Fulton Mfg. Co., 28-40 Penn Ave., Pittsburgh, Pa.
D'Este Div., American Chain & Cable Co., Inc., Bridgeport, Conn.
Farris Engineering Co., Palisades Park, N. J.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., Newark, N. J.
Foster Wheeler Corp., 165 Broadway, New York City
Foxboro Co., Foxboro, Mass.
Fulton Sylphon Co., The, Knoxville, Tenn.
General Controls Co., Glendale, Calif.
General Electric Co., Schenectady, N. Y.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Kent, George, Ltd., Luton, Bedfordshire, England
Kieley & Mueller, Inc., North Bergen, N. J.
McAlear Mfg. Co., 1901 S. Western, Chicago, Ill.
Mason Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Meletron Corp., 950 N. Highland Ave., Los Angeles 38, Calif.
Mercoid Corp., 4201 Belmont, Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Moore Products Co., Philadelphia 24, Pa.
Murphy, Frank W., Mfr., 6209 E. Admiral Pl., Tulsa, Okla.
Northern Equipment Co., Erie, Pa.
Penn Electric Switch Co., Goshen, Ind.
Powers Regulator Co., 2720 Greenview Ave., Chicago, Ill.
Republic Flow Meters Co., Chicago, Ill.
Ruggles Klingemann Mfg. Co., Salem, Mass.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Taylor Instrument Companies, Rochester, N. Y.
Trimount Inst. Co., 37 W. Van Buren St., Chicago 5, Ill.
Vapor Recovery Systems Co., Compton, Calif.
Wescott & Greis, Inc., Kennedy Bldg., Tulsa, Okla.

BECKMAN pH EQUIPMENT

For Controlling Refinery Processes



Beckman Glass Electrode pH Equipment is the most modern available. It embodies many far-reaching advancements such as High Temperature Glass Electrodes and High pH Glass Electrodes that are *exclusive* Beckman developments.

Beckman pH control is widely used in refinery processes for reducing corrosion of stills and other equipment, for regulating synthetic rubber processes, etc.—wherever acidity or alkalinity must be controlled. There is a size and type of Beckman pH instrument for every size plant and for every application, whether portable field use or large-scale installations for indicating, recording and controlling pH—*completely automatically!*

SEND FOR DETAILED LITERATURE

BECKMAN INSTRUMENTS

NATIONAL TECHNICAL LABORATORIES
SOUTH PASADENA, CALIFORNIA

CONTROLS—Process-Cycle:

Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Bradley, Allen, Milwaukee, Wis.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Farris Engineering Co., Palisades Park, N. J.
Foxboro Co., Foxboro, Mass.
Fulton Syphon Co., The, Knoxville, Tenn.
General Electric Co., Schenectady, N. Y.
Kent, George, Ltd., Luton, Bedfordshire, England
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
National Technical Laboratories, South Pasadena, Calif.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Reynolds Electric Co., 2650 W. Congress St., Chicago 12, Ill.
Taylor Instrument Co., Rochester, N. Y.

CONTROLS—Rate and Volume:

American Meter Co., 60 East 42nd St., New York City 17
Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Bradley, Allen, Milwaukee, Wis.
Bristol Co., The, Waterbury, Conn.
Brooks Rotameter Co., Lansdale, Pa.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Fischer & Porter Co., Hatboro, Pa.
Fisher Governor Co., Marshalltown, Iowa
Foster Wheeler Corp., 165 Broadway, New York City
Foxboro Co., Foxboro, Mass.
General Controls, Glendale 1, Calif.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Mason Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Republic Flow Meters Co., Chicago, Ill.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Wescott & Greis, Inc., Kennedy Bldg., Tulsa, Okla.
Wheelco Instruments Co., Harrison and Peoria Sts., Chicago, Ill.

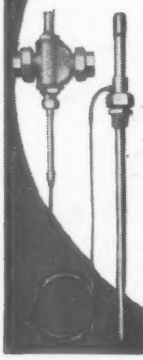
CONTROLS—Temperature:

Atlas Valve Co., 276 South St., Newark, N. J.
Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Bradley, Allen, Milwaukee, Wis.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
D'Este Div., American Chain & Cable Co., Inc., Bridgeport, Conn.
Eastern Engr. Co., New Haven, Conn.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., Newark, N. J.
Foster Wheeler Corp., 165 Broadway, New York City
Foxboro Co., Foxboro, Mass.
Fulton Sylphon Co., The, Knoxville, Tenn.
General Controls Co., Glendale, Calif.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Kent, George, Ltd., Luton, Bedfordshire, England
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
McAlear Mfg. Co., 1901 S. Western, Chicago, Ill.
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Mason Neiland Regulator Co., 1190 Adams St., Boston, Mass.
Mercoid Corp., 4201 Belmont, Chicago 41, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Moore Products Co., Philadelphia 24, Pa.
Murphy, Frank W., Mfr., 6209 E. Admiral Pl., Tulsa, Okla.
Penn Electric Switch Co., Goshen, Ind.
Republic Flow Meters Co., Chicago, Ill.
Ruggles Klingemann Mfg. Co., Salem, Mass.
Sarco Co., Inc., 475 Fifth Ave., New York City 17

SARCO TEMPERATURE REGULATORS

Complete line thermostatic regulators for temperatures 0° to 300° F. for all types process equipment heated by steam, gas, oil, or cooled by water or brine. Simple, positive, liquid expansion type for close throttling control. Standard pressures to 175 lbs.

Also Sarco TR-40 cooling control for engine, compressor jackets, condensers and Sarco water blender for washrooms, showers, laboratories, process work.



SARCO CO., INC.
475 Fifth Ave.,
New York 17, N. Y.

Spence Engineering Co., Inc., Walden, N. Y.
Tagliabue, C. J., Mfg. Co., Park Ave. and Nostrand Ave., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Wheelco Instruments Co., Harrison and Peoria Sts., Chicago, Ill.
White Rodgers Electric Co., St. Louis, Mo.

CONTROLS—Vacuum:

Automatic Temperature Control Co., Inc., Philadelphia 44, Pa.
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Belfield Co., H., Philadelphia, Pa.
Bradley, Allen, Milwaukee, Wis.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Cash, A. W., Co., Decatur, Ill.
Cutler-Hammer, Inc., Milwaukee, Wis.
D'Este Div., American Chain & Cable Co., Inc., Bridgeport, Conn.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., Newark, N. J.
Farris Engineering Co., Palisades Park, N. J.
Foxboro Co., Foxboro, Mass.
Fulton Sylphon Co., The, Knoxville, Tenn.
General Electric Co., Schenectady, N. Y.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Kent, George, Ltd., Luton, Bedfordshire, England
McAlear Mfg. Co., 1901 S. Western Ave., Chicago, Ill.
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Mason Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Mercoid Corp., 4201 Belmont, Chicago 44, Ill.
Moore Products Co., Philadelphia 24, Pa.
Northern Equipment Co., Erie, Pa.
Penn Electric Switch Co., Goshen, Ind.
Republic Flow Meters Co., Chicago, Ill.
Stoelting, C. H., Co., 424 N. Homan Ave., Chicago 24, Ill.
Tagliabue, C. J., Mfg. Co., Park Ave. and Nostrand Ave., Brooklyn, N. Y.
Taylor Instrument Co., Rochester, N. Y.
Vapor Recovery Systems Co., Compton, Calif.
Webster Engineering Co., Tulsa, Okla.
Wheelco Instruments Co., Harrison and Peoria Sts., Chicago, Ill.
White Rodgers Electric Co., St. Louis, Mo.

CONVERTERS—Synchronous:

Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
General Electric Co., Schenectady, N. Y.
Pioneer Gen-E-Motor Corp., 466 W. Superior, Chicago, Ill.

CONVEYOR BELTS — See BELTS, Conveyor:

CONVEYORS—Portable, Belt:

Brooks Equipment Co., Knoxville 8, Tenn.
Chain Belt Co., Milwaukee, Wis.
Jeffrey Mfg. Co., The, Columbus, Ohio
Link-Belt Co., 220 S. Belmont Ave., Indianapolis 6, Ind.
Quaker Rubber Co., Philadelphia, Pa.
Standard Conveyor Co., St. Paul, Minn.
Stephens-Adamson Mfg. Co., Aurora, Ill.

COOLERS—Air:

American District Steam Co., North Tonawanda, N. Y.
American Locomotive Co., Alco Products Div., 30 Church St., New York City
Brown Fintube Co., The, Elyria, Ohio
Bury Compressor Co., 1732 Cascade St., Erie, Pa.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Coy, Co., Jos. A., Inc., Tulsa, Okla.
Drayer-Hanson, P.O. Box 2215, Terminal Annex, Los Angeles 54, Calif.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Frick Co., Waynesboro, Pa.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Griscom-Russell Co., The, 285 Madison Ave., New York City
Hudson Engineering Corp., Houston, Tex.
National Carbon Co., Inc., Cleveland, Ohio
National Radiator Co., Johnstown, Pa.
Patterson-Kelley Co., Inc., East Stroudsburg, Pa.
Peabody Engineering Corp., 580 Fifth Ave., New York 19, N. Y.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Pritchard, J. F., & Co., Fidelity Towers Bldg., Kansas City, Mo.
Reynolds Electric Co., 2650 W. Congress St., Chicago 12, Ill.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Standard Steel Corp., 5001 S. Boyle Ave., Los Angeles 11, Calif.
Vogt, Henry, Machine Co., Louisville 10, Ky.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Whitlock Mfg. Co., The, Hartford, Conn.
Worthington Pump & Mach. Corp., Harrison, N. J.
York Corp., York, Pa.
Young Radiator Co., Racine, Wis.
Zallea Bros. & Johnson, 616 Locust St., Wilmington, Calif.

COOLERS—Brine:

American District Steam Co., North Tonawanda, N. Y.
American Locomotive Co., 30 Church St., New York, N. Y.
Biggs Boiler Works, The, Akron, Ohio
Brown Fintube Co., Elyria, Ohio
Carrier Corp., Syracuse, N. Y.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Corning Glass Works, Corning, N. Y.
Coy Co., Jos. A., Inc., Tulsa, Okla.
Drayer-Hanson, P.O. Box 2215, Terminal Annex, Los Angeles 54, Calif.
Engineers & Fabricators, Inc., Houston, Tex.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Frick Co., Waynesboro, Pa.

Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Griscom-Russell Co., The, 285 Madison Ave., New York City 17
Hudson Engineering Corp., Houston, Tex.
National Carbon Co., Inc., Cleveland, Ohio
National Radiator Co., The, Johnstown, Pa.
Nooter, John, Boiler Works, Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Pollock, William B., Co., Youngstown, Ohio
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Southwestern Engineering Co., Los Angeles, Calif.
Stacey Mfg. Co., The, Cincinnati, Ohio
Standard Steel Corp., 5001 S. Boyle Ave., Los Angeles 11, Calif.
Struthers-Wells, Warren, Pa.
Sturtevant, B. F., Co., Hyde Park, Boston, Mass.
Vogt, Henry, Machine Co., Louisville, Ky.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Whitlock Mfg. Co., The, Hartford, Conn.
Worthington Pump & Machinery Corp., Harrison, N. J.
Wyatt Metal & Boiler Works, Houston, Tex.
York Corp., York, Pa.
Young Radiator Co., Racine, Wis.
Zallea Bros. & Johnson, 816 Locust St., Wilmington, Del.

COOLERS—Gas:
American District Steam Co., North Tonawanda, N. Y.
American Locomotive Co., Alco Products Div., 30 Church St., New York City
Beaird Corp., J. B., Shreveport, La.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Braun, C. F., & Co., Inc., Alhambra, Calif.
Brown Fintube Co., The, Elyria, Ohio
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Corning Glass Works, Corning, N. Y.
Coy Co., Jos. A., Inc., Tulsa, Okla.
Devine, J. P., Mfg. Co., Mount Vernon, Ill.
Drayer-Hanson, P.O. Box 2215, Terminal Annex, Los Angeles 54, Calif.
Engineers & Fabricators, Inc., Houston, Tex.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
Frick Co., Waynesboro, Pa.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Griscom-Russell Co., The, 285 Madison Ave., New York City 17
Happy Co., The., Tulsa, Okla.
Head, Wrightson & Co., Ltd., London S.W.I., England
Hudson Engineering Corp., Houston, Tex.
Knight, Maurice A., Co., Akron 9, Ohio
Marley Co., The, Kansas City, Kan.
National Radiator Co., The, Johnstown, Pa.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Oxley Engineering Co., Ltd., London, Eng.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Peabody Engineering Corp., 580 Fifth Ave., New York 19, N. Y.
Pollock, William B., Co., Youngstown, Ohio
Pritchard, J. F., & Co., Fidelity Towers Bldg., Kansas City, Mo.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Southwestern Engineering Co., Los Angeles, Calif.
Stacey Mfg. Co., The, Cincinnati, Ohio
Stearns-Rogers Mfg. Co., Denver, Colo.
Sturtevant, B. F., Co., Hyde Park, Boston, Mass.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vogt, Henry, Machine Co., Louisville 10, Ky.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Whitlock Mfg. Co., The, Hartford, Conn.
Worthington Pump & Machinery Corp., Harrison, N. J.
Wyatt Metal & Boiler Works, Houston, Tex.
York Corp., York, Pa.
Young Radiator Co., Racine, Wis.
Zallea Bros. & Johnson, 816 Locust St., Wilmington, Del.

COOLER—Oil:
Drayer-Hanson, Los Angeles 54, Calif.

COOLERS—Water:
American Locomotive Co., 30 Church St., New York, N. Y.
American District Steam Co., North Tonawanda, N. Y.
Brown Fintube Co., Elyria, Ohio
Carbondale Div. of Worthington Pump & Machinery Corp., Buffalo, N. Y.
Carrier Corp., Syracuse, N. Y.
Drayer-Hanson, P.O. Box 2215, Terminal Annex, Los Angeles 54, Calif.
Engineers & Fabricators, Inc., Houston, Tex.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Frick Co., Waynesboro, Pa.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Griscom-Russell Co., The, 285 Madison Ave., New York City 17
Happy Co., The, Tulsa, Okla.
Heat Transfer Products, Inc., Box 516, Carbondale, Pa.
Hudson Engineering Corp., Houston, Tex.
Leach, C. H., Co., Inc., 117 Liberty St., New York City
Lummus Co., The, 420 Lexington Ave., New York City
Marley Co., The, Kansas City, Kans.
National Radiator Co., Johnstown, Pa.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia 22, Pa.
Southwestern Engineering Co., Los Angeles, Calif.
Struthers-Wells, Warren, Pa.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vogt, Henry, Machine Co., Louisville 10, Ky.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Westinghouse Electric Corp., Pittsburg 30, Pa.
Whitlock Mfg. Co., The, Hartford, Conn.
York Corp., York, Pa.
Young Radiator Co., Racine, Wis.

COOLING SECTIONS—See CONDENSERS:

COOLING TOWERS—Atmospheric Type:
Ampco, Engineering & Construction Co., Dallas, Tex.
Braun, C. F., & Co., Inc., Alhambra, Calif.
Flori Pipe Co., 601 E. Red Bud, St. Louis, Mo.
Fluor Corp., Ltd., Box 7030, Los Angeles Calif.
Foster Wheeler Corp., 165 Broadway, New York City
Hudson Engineering Corp., Houston, Tex.
Lillie-Hoffmann Cooling Towers, Inc., St. Louis 10, Mo.
Marley Co., The, Kansas City 15, Kans.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Pritchard, J. F., & Co., Kansas City, Mo.
York Corp., York, Pa.
Young Radiator Co., Racine, Wis.

COOLING TOWERS—Forced-Draft:
Binks Mfg. Co., 3124 Carroll Ave., Chicago, Ill.
Brown Fintube Co., Elyria, Ohio
Fluor Corp., Ltd., Box 7030, Los Angeles, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
Hudson Engineering Corp., Houston, Tex.
Lillie-Hoffmann Cooling Towers, Inc., St. Louis 10, Mo.

Marley Co., The, Kansas City, Kans.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Pritchard, J. F., & Co., Kansas City, Mo.
Water Cooling Equipment Corp., St. Louis, Mo.

COOLING TOWERS—Induced-Draft:
Binks Mfg. Co., 3124 Carroll Ave., Chicago, Ill.
Fluor Corp., Ltd., Box 7030, Los Angeles, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
Hudson Engineering Corp., Houston, Tex.
Lillie-Hoffmann Cooling Towers, Inc., St. Louis 10, Mo.
Marley Co., The, Kansas City 15, Kans.
Pollock, William B., Co., Youngstown, Ohio
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Pritchard, J. F., & Co., Kansas City, Mo.
Rogers Diesel & Aircraft Corp., 1120 Leggett Ave., New York 59, N. Y.
Water Cooling Equipment Corp., St. Louis, Mo.

COPPER—Sheet:
American Brass Co., Waterbury 88, Conn.
Chase Brass & Copper Co., Waterbury, Conn.
Revere Copper & Brass, Inc., 230 Park Ave., New York City

COPPER SULFATE:
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
Harshaw Chemical Co., The, Cleveland 6, Ohio
Phelps Dodge Refining Corp., 40 Wall St., New York City

COPPER SWEETENING PROCESSES — See PROCESSES, Copper Sweetening:

COUPLINGS—Pipe:
Dresser Mfg. Co., Bradford, Pa.
Victaulic Co. of American, 30 Rockefeller Plaza, New York, N. Y.

COUPLINS—Shaft, Flange-Type:
American-Marsh Pumps, Inc., Battle Creek, Mich.
Chain Belt Co., Milwaukee, Wis.
Dick, R. and J., Co., Inc., Passaic, N. J.
Falk Co., The, Milwaukee 8, Wis.
Farrel-Birmingham Co., Inc., 344 Vulcan St., Buffalo, N. Y.

Foote Brothers Gear & Machine Co., 4545 S. Western, Chicago, Ill.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Jeffrey Mfg. Co., The, Columbus, Ohio
Link-Belt Co., 220 S. Belmont, Indianapolis 6, Ind.
Medart Co., St. Louis, Mo.
Palmer-Bee Co., Detroit 12, Mich.
Spicer Mfg. Co., Toledo, Ohio
Standard Pressed Steel Co., Stewart & Kenmore Sts., Philadelphia, Pa.
Thomas Flexible Coupling Co., Warren, Pa.
Wood's, T. B., Sons Co., Chambersburg, Pa.

COUPLINGS—Shaft, Flexible:
American Flexible Coupling Co., Erie, Pa.
American - Marsh Pumps, Inc., Battle Creek, Mich.
Baldwin-Duckworth Div., Springfield, Mass.
Bartlett-Hayward Div., Koppers Co., Baltimore, Md.
Chain Belt Co., Milwaukee 4, Wis.
Diamond Chain & Mfg. Co., Indianapolis, Ind.
Excelsior Leather Washer Mfg. Co., Inc., Rockford, Ill.
F.A.B. Mfg. Co., 1249 67th St., Oakland 8, Calif.
Falk Corp., The, Milwaukee 8, Wis.
Farrel-Birmingham Co., Inc., 344 Vulcan St., Buffalo, N. Y.
Frederick Iron & Steel Co., Frederick, Md.
Haveg Corp., Newark, Del.
James, D. O., Mfg. Co., 1114 W. Monroe, Chicago, Ill.
Jeffrey Mfg. Co., The, Columbus, Ohio
Jones, W. A., Foundry & Machine Co., 4401 W. Roosevelt Rd., Chicago, Ill.
Kinney Mfg. Co., 3529-41 Washington St., Boston, Mass.
Koppers Co., Koppers Bldg., Pittsburgh 19, Pa.
Link-Belt Co., 220 S. Belmont Ave., Indianapolis, Ind.
Lovejoy Flexible Couplings Co., 5036 W. Lake St., Chicago, Ill.
McAlear Mfg. Co., 1901 S. Western Ave., Chicago, Ill.
Morse Chain Co., Ithaca, N. Y.
Nicholson, W. H., & Co., Wilkes-Barre, Pa.
Palmer-Bee Co., Detroit 12, Mich.
Poole Foundry & Machine Co., Baltimore, Md.
Spicer Mfg. Co., Toledo, Ohio
Thomas Flexible Coupling Co., Warren, Pa.
Union Chain & Mfg. Co., The, Sandusky, Ohio
Whitney Chain & Mfg. Co., Hartford, Conn.
Wood's, T. B., Sons Co., Chambersburg, Pa.
Zurn, J. A., Mfg. Co., 1801 Pittsburgh Ave., Erie, Pa.

COVERING—Pipe—See INSULATION:

COVERS—Gage-Hole—See TANK GAGE and THIEF HATCHES:

CRACKING PROCESSES—See PROCESSES. Refinery:

CROSSES—Drop Forged Steel:
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
Vogt, Henry, Machine Co., Louisville, Ky.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Roselle, N. J.

CROSSES—Forged-Steel:
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Hadfields Limited, London, England
Jarecki Mfg. Co., St. Louis, Mo.
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
Vogt, Henry, Machine Co., Louisville 10, Ky.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.

CROSSES—Pipe Welding:
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Jarecki Mfg. Co., St. Louis, Mo.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Sivyer Steel Casting Co., Milwaukee, Wis.
Taylor Forge & Pipe Works, Chicago, Ill.
Vogt, Henry, Machine Co., Louisville 10, Ky.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.

CUPS—Grease:
American Injector Co., 1481 14th Ave., Detroit, Mich.
Chase Brass & Copper Co., Waterbury, Conn.
Detroit Lubricator, 5900 Trumbull Ave., Detroit, Mich.
Link-Belt Co., 220 S. Belmont Ave., Indianapolis 6, Ind.
Lonergan, J. E., Co., Philadelphia, Pa.
Lunkenheimer Co., The, Cincinnati, Ohio
Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.
Powell, Wm., Co., The, Cincinnati 22, Ohio
Swift Lubricator Co., Elmira, N. Y.

CUPS—Oil:
American Injector Co., 1481 14th Ave., Detroit, Mich.
Chase Brass & Copper Co., Waterbury, Conn.
Corning Glass Works, Corning, N. Y.
Delta Engineering Sales Co., Shreveport, La.
Detroit Lubricator, 5900 Trumbull Ave., Detroit, Mich.
Justrite Mfg. Co., 2061 N. Southport Ave., Chicago, Ill.
Lonergan, J. E., Co., Philadelphia, Pa.
Lunkenheimer Co., The, Cincinnati, Ohio
Nathan Mfg. Co., 416 E. 106th St., New York City
Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.
Powell, Wm., Co., The, Cincinnati 22, Ohio
Swift Lubricator Co., Elmira, N. Y.

CUTTERS — Pipe: See THREADERS and CUTTERS:

CUTTING TORCHES — See WELDING and CUTTING EQUIPMENT:

DAMPERS:
American Manganese Steel Div., 289 E. 14th St., Chicago Heights, Ill.
Automatic Temperature Control Co., Inc., Philadelphia 44, Pa.
Duraloy Company, Scottdale, Pa.
Martin-Decker Corp., 3441 Cherry Ave., Long Beach 7, Calif.
Meehanite Metals Corp., New Rochelle, N. Y.

DEAERATORS:
Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
Chain Belt Co., 1600 W. Bruce St., Milwaukee 4, Wis.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Elliott Co., Jeannette, Pa.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Permutit Co., 330 W. 42nd St., New York City
Pritchard, J. F., & Co., Kansas City, Mo.
Standard Steel Corp., Los Angeles, Calif.
Worthington Pump & Machinery Corp., Harrison, N. J.
Whitlock Mfg. Co., The, Hartford, Conn.
Youngstown Welding & Engineering Co., Youngstown, Ohio

DECKS—Bubble:
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vulcan Steel Tank Corp., Tulsa, Okla.
Watkins, Inc., 204 N. Waco, Wichita 2, Kans.
Wyatt Metal & Boiler Works, Houston, Tex.

DECOKING EQUIPMENT—Hydraulic:
Foster Wheeler Corp., 165 Broadway, New York City
Worthington Pump & Machinery Corp., Harrison, N. J.

DEEP-WELL TURBINE PUMPS — See PUMPS, Turbine, Deep-Well:

DEHUMIDIFIERS:
Carrier Corp., Syracuse, N. Y.
Clarage Fan Co., Kalamazoo, Mich.
Columbian Steel Tank Co., Kansas City, Mo.
Kemp, C. M., Mfg. Co., Baltimore 2, Md.
Pittsburgh Lectrodryer Corp., Box 1766, Pittsburgh, Pa.
Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Pritchard, J. F., & Co., Kansas City, Mo.
Solvay Sales Corp., 40 Rector St., New York City
Sturtivant Co., B. F., Boston, Mass.
York Corp., York, Pa.

DEHYDRATORS:
Columbian Steel Tank Co., Kansas City, Mo.
Flotrol Systems, Inc., 385 Gerard Ave., New York 51, N. Y.
Kemp, C. M., Mfg. Co., 405 E. Oliver St., Baltimore 2, Md.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Petroleum Rectifying Co., 530 W. 6th St., Los Angeles 13, Calif.
Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Pritchard, J. F., & Co., Kansas City, Mo.
Sharples Corp., The, 23rd & Westmoreland Sts, Philadelphia, Pa.
Stearns-Roger Mfg. Co., Denver 2, Colo.
Tretolite Co., St. Louis 19, Mo.
Wyatt Metal & Boiler Works, Houston, Tex.

DEPHLEGMATORS:
American Locomotive Co., 30 Church St., New York, N. Y.
Biggs Boiler Works, The, Akron, Ohio
Blaw-Knox Co., Blawnox, Pa.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Griscom-Russell Co., The, 285 Madison Ave., New York 17, N. Y.
Hendrick Mfg. Co., Carbondale, Pa.
Kellogg Co., The M. W., 225 Broadway, New York 17, N. Y.
Leader Iron Works, Inc., Decatur 60, Ill.
Leeds & Northrup Co., Philadelphia, Pa.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Petroleum Iron Works Div., Pennsylvania Shipyards, Inc., Beaumont, Tex.
Southwestern Engineering Co., Los Angeles, Calif.
Stearns-Roger Mfg. Co., Denver 2, Colo.
Wyatt Metal & Boiler Works, Houston, Tex.

DESALTING — Crude Oil: See PLANTS, Desalting:

DESUPERHEATERS:
American Locomotive Co., Alco Products Div., 30 Church St., New York City
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Brown Fintube Co., The, Elyria, Ohio
Combustion Engineering Co., 200 Madison Ave., New York City
Elliott Co., Jeannette, Pa.

Foster Wheeler Corp., 165 Broadway, New York City
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Northern Equipment Co., Erie, Pa.
Republic Flow Meters Co., Chicago, Ill.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia, Pa.
Spence Engineering Co., Inc., Walden, N. Y.
Standard Steel Corp., Los Angeles, Calif.
Whitlock Mfg. Co., The, Hartford, Conn.

DETECTORS—Hydrogen Sulfide:
Davis Emergency Equipment Co., Inc., Newark, N. J.
McDonald, B. F., Co., 5112 S. Hoover St., Los Angeles 37, Calif.
Mine Safety Appliances Co., Braddock, Thomas & Meade Sts., Pittsburgh, Pa.

DETERGENTS:
American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, New York City
General Chemical Co., 40 Rector St., New York 6, N. Y.
Houghton, E. F., & Co., 303 W. Lehigh, Philadelphia 33, Pa.
Magnus Chemical Co., Garwood, N. J.
Mathieson Alkali Works, Inc., 60 E. 42nd St., New York 17, N. Y.
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Philadelphia Quartz Co., 121 S. Third St., Philadelphia 6, Pa.
Pittsburgh Plate Glass Co., Columbia Chemical Div., Pittsburgh 13, Pa.
Solvay Sales Corp., 40 Rector St., New York City
Tretolite Co., St. Louis 19, Mo.
Turco Products, Inc., 6135 S. Central Ave., Los Angeles, Calif.

DEWAXING EQUIPMENT—See also PROCESSES, Dewaxing:
Foster Wheeler Corp., 165 Broadway, New York City
Hendrick Mfg. Co., Carbondale, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

DEWAXING PROCESSES — See PROCESSES, Dewaxing:

DIE STOCKS:
Armstrong Bros. Tool Co., 317 N. Francisco, Chicago, Ill.
Greenfield Tap & Die Corp., Greenfield, Mass.
Nye Tool & Machine Works, Chicago, Ill.
Ridge Tool Co., Elyria, Ohio
Toledo Pipe Threading Machine Co., Toledo 4, Ohio

DIESEL ENGINES—See ENGINES, Diesel:

DISTILLATION UNITS — See PROCESSES, Refinery:

DRIVES—V-Belt:
Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
Browning Mfg. Co., Maysville, Ky.
Dayon Rubber Mfg. Co., The, Dayton 1, Ohio
Gates Rubber Co., The, 999 S. Broadway, Denver 17, Colo.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Link-Belt Co., 220 S. Belmont Ave., Indianapolis 6, Ind.
Mechanical Rubber Co., 1 Market St., Passaic, N. J.
Thermoid Co., Trenton, N. J.
Worthington Pump & Machinery Corp., Harrison, N. J.

DRUMS—Steel: See BARRELS—Steel:

DYES—Gasoline:
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
Patent Chemicals, Inc., 335 Boulevard, Paterson 3, N. J.

ECONOMIZERS—Boiler Feed Water:
Combustion Engineering Corp, 200 Madison Ave., New York City

EDUCTORS:
Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia, Pa.

EJECTORS—Air:
Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
Ampco, Engineering & Construction Co., Dallas, Tex.
Croll-Reynolds Engineering Co., 17 John St., New York City
Elliott Co., Jeannette, Pa.
Foster Wheeler Corp., 165 Broadway, New York City
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Ingersoll-Rand Co., 11 Broadway, New York City
Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia 22, Pa.
Shand & Jurs Co., Berkeley, Calif.
Westinghouse Electric Corp., E. Pittsburgh, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

EJECTORS—Steam Jet:
Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
American Ejector Co., 1481 14th Ave., Detroit, Mich.
Croll-Reynolds Engineering Co., 17 John St., New York City
Duriron Co., The, Inc., Dayton, Ohio
Elliott Co., Jeannette, Pa.
Foster Wheeler Corp., 165 Broadway, New York City
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Ingersoll-Rand Co., 11 Broadway, New York City 4
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
Ohio Injector Co., Wadsworth, Ohio
Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Sarco Co., Inc., 475 Fifth Ave., New York City
Schutte & Koerting Co., 1175 Thompson St., Philadelphia, Pa.
Shand & Jurs Co., Berkeley, Calif.
Westinghouse Electric Corp., E. Pittsburgh, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

ELECTRIC CABLE—See CABLE, Electric:

ELECTRIC CIRCUIT BREAKERS—See CIRCUIT BREAKERS, Electric:

ELECTRIC LANTERNS—See LANTERNS, Electric:

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Croll-Reynolds Evactors represent the highest modern development in steam jet ejectors as indicated by operating installations totalling over eight thousand. Croll-Reynolds Chill-Vactors apply this type of vacuum equipment for chilling water and certain solutions. Other Croll-Reynolds products include FlexoDisc Expansion Joints, Heaters, Deaerators, Condensers and Heat Exchangers.

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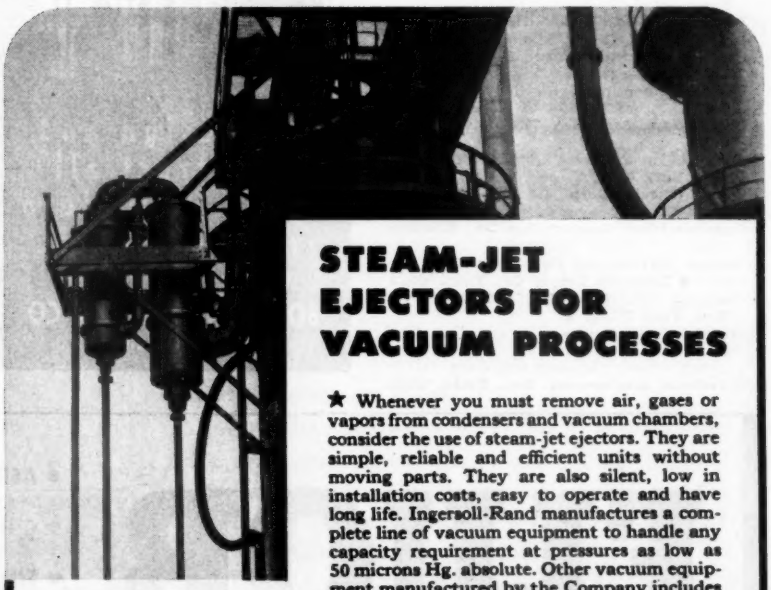

Three-stage ejector with barometric inter-condenser used on a petroleum distillation process.

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★ Whenever you must remove air, gases or vapors from condensers and vacuum chambers, consider the use of steam-jet ejectors. They are simple, reliable and efficient units without moving parts. They are also silent, low in installation costs, easy to operate and have long life. Ingersoll-Rand manufactures a complete line of vacuum equipment to handle any capacity requirement at pressures as low as 50 microns Hg. absolute. Other vacuum equipment manufactured by the Company includes surface and barometric condensers, reciprocating dry vacuum pumps and steam-jet refrigeration units.

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ELECTRIC-MOTOR STARTERS — See STARTERS, Electric-Motor:

ELECTRIC SWITCHES — See SWITCHES, Electric:

ELECTRIC WELDING MACHINES — See WELDERS, Electric Arc:

ELECTRODES — Welding: See WELDING RODS and ELECTRODES:

ELECTRODE HOLDERS — See WELDING ELECTRODE HOLDERS:

ELLS—Welding:

Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Grinnell Co., Inc., Providence 1, R. I.
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Sivyer Steel Casting Co., Milwaukee, Wis.
Taylor Forge & Pipe Works, Chicago, Ill.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.
Youngstown Welding & Engineering Co., Youngstown, Ohio

EMULSIFIERS:

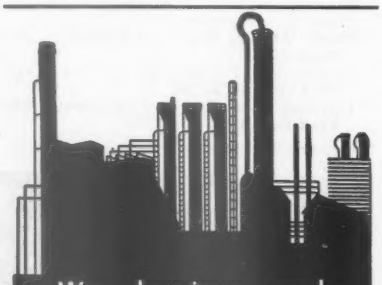
American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, New York City
Carbide and Carbon Chemicals Corp., Kokomo, Ind.
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
Patent Chemicals, Inc., 335 Boulevard, Paterson 3, N. J.
Turco Products, Inc., 6135 S. Central Ave., Los Angeles, Calif.

ENGINEERING and CONSTRUCTION—Natural-Gasoline Plant:

Ampco, Engineering & Construction Co., Dallas, Tex.
Bechtel Brothers McCone Co., 601 W. 5th St., Los Angeles 15, Calif.
Bechtel, W. A., Co., 155 Sansome St., San Francisco 4, Calif.
Born Engr. Co., Tulsa, Okla.
Braun & Co., C. F., Alhambra, Calif.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Delta Engineering Sales Co., Shreveport, La.
Fluor Corp., Ltd., Box 7030, Los Angeles, Calif.
Ford, Bacon & Davis, Inc., 39 Broadway, New York 6, N. Y.
Foster Wheeler Corp., 165 Broadway, New York City
Gasoline Plant Construction Co., Houston, Tex.
Hudson Engineering Corp., Houston, Tex.
Jones & Laughlin Supply Co., Tulsa, Okla.
Lummus Co., The, 420 Lexington Ave., New York 17, N. Y.
Mid-Continent Engineering Co., Inc., Dallas, Tex.
Parkhill-Wade, Los Angeles, Calif.
Petroleum Engineering, Inc., Tulsa, Okla.
Pritchard, J. F., & Co., Kansas City, Mo.
Southwestern Engineering Co., Los Angeles, Calif.
Stearns-Roger Mfg. Co., Denver, Colo.
Walco Engineering & Construction Co., Tulsa, Okla.

ENGINEERING and CONSTRUCTION—Refinery:

Ampco, Engineering & Construction Co., Dallas, Tex.
Badger, E. B., Sons Co., Boston, Mass.
Bechtel Brothers McCone Co., 601 W. 5th St., Los Angeles 15, Calif.
Bechtel, W. A., Co., 155 Sansome St., San Francisco 4, Calif.
Blaw-Knox Co., Blawnox, Pa.
Born Engr. Co., Tulsa, Okla.
Braun & Co., C. F., Alhambra, Calif.
Chemical Construction Corp., 30 Rockefeller Plaza, New York City
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Fluor Corp., Ltd., Box 7030, Los Angeles, Calif.
Ford, Bacon & Davis, Inc., 39 Broadway, New York 6, N. Y.
Foster Wheeler Corp., 165 Broadway, New York City
Fraser-Brace Engineering Co., New York City
Gasoline Plant Construction Co., Houston, Tex.
Girdler Corp., Lexington, Ky.
Gray Processes Corp., 135 E. 42nd St., New York City
Head, Wrightson & Co., Ltd., London S.W.I., England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Houdry Process Corp., Lewis Tower Bldg., Philadelphia, Pa.
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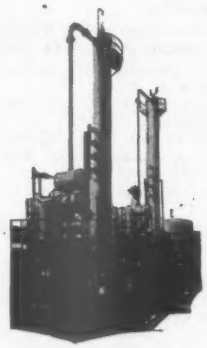
Kellogg Co., The M. W., 225 Broadway, New York City
Lockwood, Kessler & Bartlett, Inc., 32 Court St., Brooklyn 2, N. Y.
Lummus Co., 1250 Graybar Bldg., New York City 17
McKee & Co., Arthur G., Cleveland, Ohio
Mid-Continent Engineering Co., Inc., Dallas, Tex.
Miller, Max B., & Co., Inc., 501 Fifth Ave., New York City
Parkhill-Wade, Los Angeles, Calif.
Petroleum Conversion Corp., Elizabeth, N. J.
Petroleum Engineering, Inc., Tulsa, Okla.



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Southwestern Engineering Co., Los Angeles, Calif.
Stacey Mfg. Co., The, Cincinnati, Ohio
Stearns-Roger Mfg. Co., Denver, Colo.
Stone & Webster Engr. Corp., 90 Broad St., New York City
Stratford Engineering Corp., Kansas City, Mo.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Turnbull, J. Gordon, Inc., Cleveland, Ohio
Universal Oil Products Co., 310 S. Michigan Ave., Chicago, Ill.
Walco Engineering & Construction Co., Tulsa, Okla.
White, J. G., Engineering Corp., New York City
Winkler-Koch Engineering Co., Wichita, Kans.
Wyatt Metal & Boiler Works, Houston, Tex.

ENGINEERING—Process: See ENGINEERING and CONSTRUCTION, Refinery, also PROCESSES, Refinery:

ENGINEERS, Design—See ENGINEERING and CONSTRUCTION, Refinery:

ENGINEERS—Erecting: See ENGINEERING and CONSTRUCTION, Refinery:

ENGINES—Air-Cooled:

Briggs & Stratton Corp., Milwaukee 1, Wis.
Continental Motors Corp., Muskegon, Mich.
LeRoi Co., Milwaukee, Wis.
Novo Engine Co., Lansing, Mich.
Sheppard Co., R. H., Hanover, Pa.
Wisconsin Motor Corp., Milwaukee, Wis.

ENGINES—Convertible, Gas or Oil:

Buda Co., Harvey, Ill.
Chicago Pneumatic Tool Co., 6 E. 44th St., New York 17, N. Y.
Clark Bros. Co., Inc., Box 560, Olean, N. Y.
Climax Engineering Co., Clinton, Iowa
Continental Motors Corp., Muskegon, Mich.
Cooper-Bessemer Corp., The, Mount Vernon, Ohio
Enterprise Engine & Foundry Co., San Francisco, Calif.
Fairbanks, Morse & Co., Turbine Pump Div., Chicago 5, Ill.
Ingersoll-Rand Co., 11 Broadway, New York City 4
Minneapolis-Moline Power Implement Co., Minneapolis, Minn.
National Supply Co., The, Toledo 1, Ohio
Nordberg Mfg. Co., 3073 Chase Ave., Milwaukee 7, Wis.
Waukesha Motor Co., Waukesha, Wis.
Weber Engine Works, Kansas City, Mo.
Worthington Pump & Machinery Corp., Harrison, N. J.

ENGINES—Diesel:

Allen, W. H., Sons & Co., Ltd., Bedford, England
American Locomotive Co., 30 Church St., New York City
Atlas Imperial Diesel Engine Co., 1000 19th Ave., Oakland 6, Calif.
Baldwin De La Vergne Sales Corp., Paschall P. O., Philadelphia, Pa.
Buda Co., Harvey, Ill.
Busch Sulzer Bros., Diesel Engine Co., St. Louis, Mo.
Caterpillar Tractor Co., Peoria, Ill.
Chicago Pneumatic Tool Co., 6 E. 44th St., New York City
Clark Bros. Co., Inc., Box 560, Olean, N. Y.
Climax Engineering Co., Clinton, Iowa
Continental Motors Corp., Muskegon, Mich.
Cooper-Bessemer Corp., The, Mount Vernon, Ohio
Cummins Engine Co., Columbus, Ind.
Detroit Diesel Engine Division of the General Motors Corp., Detroit, Mich.
Enterprise Engine & Foundry Co., San Francisco, Calif.
General Motor Corp., Lagrange, Ill.
Hercules Motors Corp., Canton, Ohio
Industrial Engine Div., Chrysler Corp., 12200 E. Jefferson, Detroit 31, Mich.
Ingersoll-Rand Co., 11 Broadway, New York City 4
International Harvester Co., 180 N. Michigan Ave., Chicago 1, Ill.
Lister-Blackstone, Inc., 6619 W. Mitchell St., Milwaukee 14, Wis.
Murphy Diesel Co., Milwaukee, Wis.
Nordberg Mfg. Co., 3073 Chase Ave., Milwaukee 7, Wis.
National Supply Co., The, Toledo 1, Ohio
Sun Shipbuilding & Dry Dock Co., Chester, Pa.
Weber Engine Works, Kansas City, Mo.
Worthington Pump & Machinery Corp., Harrison, N. J.

ENGINES—Gas:

Allis-Chalmer Mfg. Co., Milwaukee 1, Wis.
Atlas Imperial Diesel Engine Co., 1000 19th Ave., Oakland 6, Calif.
Briggs & Stratton, Milwaukee, Wis.
Bruce-Macbeth Engine Co., 2111 Center St., Cleveland 13, Ohio
Buda Co., Harvey, Ill.
Buffalo Gasolene Motor Co., Buffalo, N. Y.
Case, J. I., Co., Racine, Wis.
Caterpillar Tractor Co., Peoria, Ill.
Chicago Pneumatic Tool Co., 6 E. 44th St., New York City
Clark Bros. Co., Inc., Box 560, Olean, N. Y.
Climax Engineering Co., Clinton, Iowa
Continental Motors Corp., Muskegon, Mich.
Cooper-Bessemer Corp., The, Mount Vernon, Ohio
Cooper, Fred E., Hale Station, Tulsa, Okla.
Enterprise Engine & Foundry Co., San Francisco, Calif.
Fairbanks, Morse Co., 600 S. Michigan Ave., Chicago, Ill.
General Power, Inc., Quapaw, Okla.
Hercules Motors Corp., Canton, Ohio
Ingersoll-Rand Co., 11 Broadway, New York City 4

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National Supply Co., The, Toledo 1, Ohio
National Transit Pump & Machinery Co., Oil City, Pa.
Nordberg Mfg. Co., 3073 Chase Ave., Milwaukee 7, Wis.
Novo Engine Co., Lansing, Mich.
Sterling Engine Co., Buffalo, N. Y.
Waukesha Motor Co., Waukesha, Wis.
Weber Engine Works, Kansas City, Mo.
Wisconsin Motor Corp., Milwaukee, Wis.
Witte Engine Works, Kansas City, Mo.
Worthington Pump & Machinery Corp., Harrison, N. J.

ENGINES—Gasoline:
Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
American Car & Foundry Co., 30 Church St., New York City
Briggs & Stratton, Milwaukee 1, Wis.
Buda Co., Harvey, Ill.
Buffalo Gasolene Motor Co., Buffalo, N. Y.
Case, J. I., Co., Racine, Wis.
Climax Engineering Co., Clinton, Iowa
Continental Motors Corp., Muskegon, Mich.
Cooper, Fred E., Hale Station, Tulsa, Okla.
Fairbanks, Morse Co., 600 S. Michigan Ave., Chicago, Ill.
General Power, Inc., Quapaw, Okla.
Hercules Motors Corp., Canton, Ohio
Industrial Engine Div., Chrysler Corp., 12200 E. Jefferson, Detroit 31, Mich.
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LeRoi Co., Milwaukee 14, Wis.
Minneapolis-Moline Power Implement Co., Minneapolis, Minn.
Novo Engine Co., Lansing, Mich.
Sterling Engine Co., Buffalo, N. Y.
Waukesha Motor Co., Waukesha, Wis.
Wisconsin Motor Co., Milwaukee, Wis.
Witte Engine Works, Kansas City, Mo.

ENGINES—Steam:
Ajax Iron Works, 26 W. Washington St., Corry, Pa.
Allen, W. H., & Sons, Ltd., Bedford, England
Elliott Co., Jeannette, Pa.
Murray Iron Works Co., Burlington, Iowa
Troy Engine & Machine Co., Troy, Pa.
Wheland Co., Chattanooga, Tenn.
Wilson-Snyder Mfg. Div. of Oil Well Supply Co., Braddock, Pa.

EVAPORATORS:
American Locomotive Co., Alco Products Div., 30 Church St., New York City
Ashmore, Benson, Pease & Co., Ltd., Stockton-on-Tees, England
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Biggs Boiler Works, The, Akron, Ohio
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Blaw-Knox Co., Blawnox, Pa.
Brown Fintube Co., The, Elyria, Ohio
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Coy, Co., Jos. A., Inc., Tulsa, Okla.
Croll-Reynolds Engineering Co., 17 John St., New York City
Drayer-Hanson, P.O. Box 2215, Terminal Annex, Los Angeles 54, Calif.
Engineers & Fabricators, Inc., Houston, Tex.
Farrar & Trefts, Inc., Buffalo, N. Y.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
Gasoline Plant Construction Co., Houston, Tex.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Griscom-Russell Co., The, 285 Madison Ave., New York City

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Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Pollock, William B., Co., Youngstown, Ohio
Porter, H. K., Co., Inc., Pittsburgh, Pa.
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Stearns-Roger Mfg. Co., Denver 2, Colo.
Struthers-Wells, Warren, Pa.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vulcan Steel Tank Corp., Tulsa, Okla.
Westinghouse Electric Corp., Pittsburgh 30, Pa.
Wyatt Metal & Boiler Works, Houston, Tex.
York Corp., York, Pa.
Young Radiator Co., Racine, Wis.

EXCHANGERS — Heat: See HEAT EXCHANGERS:

EXHAUST FANS—See FANS, Exhaust:

EXHAUSTERS:
Champion Blower & Forge Co., Lancaster, Pa.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Croll-Reynolds Engineering Co., 17 John St., New York City
Elliott Co., Jeannette, Pa.
Foster Wheeler Corp., 165 Broadway, New York City
Haveg Corp., Newark, Del.
Ingersoll-Rand Co., 11 Broadway, New York City
Roots-Connersville Blower Corp., Connersville, Ind.
Shand & Jurs Co., Berkeley, Calif.
Worthington Pump & Machinery Corp., Harrison, N. J.

EXHAUSTERS—Steam Jet:
Burt Mfg. Co., The, Akron, Ohio
Champion Blower & Forge Co., Lancaster, Pa.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Croll-Reynolds Engineering Co., 17 John St., New York City
Elliott Co., Jeannette, Pa.
Foster Wheeler Corp., 165 Broadway, New York City
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Haveg Corp., Newark, Del.
Ingersoll-Rand Co., 11 Broadway, New York 4, N. Y.
Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia, Pa.
Shand & Jurs Co., Berkeley, Calif.
Worthington Pump & Machinery Corp., Harrison, N. J.

EXHAUSTERS and BLOWERS — Manhole: See BLOWERS and EXHAUSTERS, Manhole:

EXPANDERS—Tube:
Airetool Mfg. Co., The, Springfield, Ohio
Gustav-Wiedeke Co., The, Dayton, Ohio
Henderer's, A. L., Sons, Wilmington 55, Del.
Key Co., East St. Louis, Ill.
Leach, C. H., Co., Inc., 117 Liberty St., New York City
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.

EXPANSION JOINTS — See JOINTS, EXPANSION:

EXTINGUISHERS — Fire: See FIRE EXTINGUISHERS:

EXTRACTORS—Mist:
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Blaw-Knox Co., Blawnox, Pa.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Kellogg Co., The M. W., 225 Broadway, New York 7, N. Y.
Knight, Maurice A., Co., Akron 9, Ohio
Peerless Mfg. Co., 3015 Main St., Dallas, Tex.
Pritchard, J. F., & Co., Kansas City, Mo.
Stearns-Roger Mfg. Co., Denver, Colo.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vulcan Steel Tank Corp., Tulsa, Okla.

FABRICATED METAL INSULATION—See INSULATION, Fabricated Metal:

FABRICATED PIPING — See PREFABRICATED PIPING:

FABRICATED STEEL:
Allied Steel Products Corp., Tulsa, Okla.
Alten's Foundry & Machine Works, Lancaster, Ohio
American Car & Foundry Co., 30 Church St., New York City
American Locomotive Co., Alco Products Div., 30 Church St., New York City
American Steel Works, Kansas City 8, Mo.
American Welding & Mfg. Co., Warren, Ohio
Ashmore, Benson, Pease & Co., Ltd., Stockton-on-Tees, England
Beaird Corp., J. B., Shreveport, La.
Bethlehem Steel Co., Bethlehem, Pa.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Blaw-Knox Co., Blownox, Pa.
Brinkman, Inc., 1705 Ruiz, Houston, Tex.
Bros, Wm., Boiler & Mfg. Co., Minneapolis 14, Minn.
Butler Mfg. Co., Kansas City, Mo.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Co., Chicago, Ill.
Columbian Steel Tank Co., Kansas City, Mo.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Darby Corp., The, 1st & Walker, Kansas City, Kans.
Eaton Metal Products Co., 4800 York St., Denver 16, Colo.
Farrar & Trefts, Inc., Buffalo, N. Y.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graver Tank & Mfg. Co., 4809 Todd, East Chicago, Ill.
Head, Wrightson & Co., Ltd., London S.W.I., England
Kellogg Co., The M. W., 225 Broadway, New York City
Lancaster Iron Works, Lancaster, Pa.
Leader Iron Works, Inc., Decatur, Ill.
Lucey Boiler & Mfg. Co., Chattanooga, Tenn.
Maloney Tank Mfg. Co., Tulsa, Okla.
Mosher Steel Co., Houston, Tex.
Muskegon Boiler Works, Muskegon, Mich.
National Radiator Co., The, Johnstown, Pa.
Norris, W. C., Mfr., Inc., 10 N. Elwood, Tulsa, Okla.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Oxley Engineering Co., Ltd., London, England
Palmer-Bee Co., Detroit 12, Mich.
Patterson Steel Co., Tulsa, Okla.
Petroleum Iron Works Div., Pennsylvania Shipyards, Inc., Beaumont, Tex.
Pfaudler Co., The, Rochester, N. Y.
Pittsburgh-Des Moines Steel Co., Newille Island P.O., Pittsburgh 25, Pa.
Pollock, William B., Co., Youngstown, Ohio
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Ryerson, Jos. T., & Son, Inc., Chicago, Ill.
Southwestern Engineering Co., Los Angeles, Calif.
Stacey Mfg. Co., The, Cincinnati, Ohio
Standard Steel Corp., Los Angeles, Calif.
Southwest Welding & Mfg. Co., Alhambra, Calif.
Struthers-Wells, Warren, Pa.
Sun Shipbuilding & Dry Dock Co., Chester, Pa.
Truscon Steel Co., Youngstown, Ohio
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vulcan Copper & Supply Co., The, 120 Sycamore, Cincinnati 2, Ohio
Vulcan Steel Tank Corp., Tulsa, Okla.
Whitlock Mfg. Co., The, Hartford, Conn.
Wyatt Metal & Boiler Works, Houston, Tex.

FANS—Cooling:

Aerovent Fan Co., Piqua, Ohio
Allen Corp., 9765 Erwin Ave., Detroit, Mich.
American Blower Corp., Detroit, Mich.
American Machine & Metals, Inc., of the Debothezat Ventilating Equipment Division, East Moline, Ill.
Butane Equipment Co., Dallas, Tex.
Carrier Corp., Syracuse, N. Y.
Coppus Engineering Co., Worcester, Mass.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Ilg Electric Ventilating Co., Chicago, Ill.
Reynolds Electric Co., 2650 W. Congress St., Chicago 12, Ill.
Robbins & Myers, Inc., Springfield, Ohio
South Bend Air Products, Inc., South Bend, Ind.
Sturtevant, B. F., Co., Hyde Park, Boston, Mass.
Wagner Electric Corp., St. Louis, Mo.
Wing, L. J., Mfg. Co., 154 W. 14th St., New York 11, N. Y.
Young Radiator Co., Racine, Wis.

FANS—Exhaust:

Aerovent Fan Co., Piqua, Ohio
American Blower Corp., Detroit, Mich.
American Machine & Metals, Inc., of the Debothezat Ventilating Equipment Division, East Moline, Ill.
Burt Mfg. Co., The, Akron, Ohio
Butane Equipment Co., Dallas, Tex.
Clarage Fan Co., Kalamazoo, Mich.
Coppus Engineering Co., Worcester, Mass.
DeVilbiss Co., The 300 Phillips Ave., Toledo 1, Ohio
Dual Air Fan Co., 711 W. Lake St., Chicago, Ill.
Green Fuel Economizer Co., Inc., Beacon, N. Y.
Ilg Electric Ventilating Co., Chicago, Ill.
Pangborn Corp., Hagerstown, Md.
Reynolds Electric Co., 2650 W. Congress St., Chicago 12, Ill.
Robbins & Myers, Inc., Springfield, Ohio
South Bend Air Products, Inc., South Bend, Ind.
Sturtevant, B. F., Co., Hyde Park, Boston, Mass.
U. S. Stoneware Co., Akron 9, Ohio
Wagner Electric Corp., St. Louis, Mo.
Wing, L. J., Mfg. Co., 154 W. 14th St., New York 11, N. Y.

FANS—Ventilating:

Aerovent Fan Co., Piqua, Ohio
Allen Corp., 9765 Erwin Ave., Detroit, Mich.
American Blower Corp., Detroit, Mich.
American Machine & Metals Co., Inc., of the Debothezat Ventilating Equipment Division, East Moline, Ill.
Burt Mfg. Co., The, Akron, Ohio
Butane Equipment Co., Dallas, Tex.
Carrier Corp., Syracuse, N. Y.
Clarage Fan Co., Kalamazoo, Mich.
Coppus Engineering Co., Worcester, Mass.
Jeffrey Mfg. Co., The, Columbus, Ohio
Reynolds Electric Co., 2650 W. Congress St., Chicago 12, Ill.
Robbins & Myers, Inc., Springfield, Ohio
South Bend Air Products, Inc., South Bend, Ind.
Stearns-Roger Mfg. Co., Denver, Colo.
Sturtevant, B. F., Co., Hyde Park, Boston, Mass.
Wagner Electric Corp., St. Louis, Mo.
Wing, L. J., Mfg. Co., 154 W. 14th St., New York 11, N. Y.

FASTENERS—Belt:

Alten's Foundry & Machine Works, Lancaster, Ohio
Flexible Steel Lacing Co., 4607-31 Lexington St., Chicago 44, Ill.
Sikes Co., S. R., 1028 S. Third St., Minneapolis 15, Minn.

FEEDERS—Chemical:

American Water Softener Co., 4th & Lehigh, Philadelphia, Pa.
Adams Engineering Co., 1618 N. Fitzhugh, Dallas 4, Tex.
Bird-Archer Co., Wrigley Bldg., Chicago, Ill.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Brooks Rotameter Co., Lansdale, Pa.
Cochrane Corp., 17th & Allegheny Ave., Philadelphia 32, Pa.
Dearborn Chemical Co., 310 S. Michigan Ave., Chicago, Ill.
Elgin Softener Corp., Elgin, Ill.
Fischer & Porter Co., Hatboro, Pa.
Haering D. W., & Co., 205 W. Wacker Drive, Chicago, Ill.
Hamner, Leland, Co., Houston, Tex.
Horn, A. C., Co., Houston, Tex.
Milton Roy Pumps, 1300 E. Mermaid Ave., Philadelphia, Pa.
Permutit Co., 330 W. 42nd St., New York City
%Proportioneers, Inc.%, Providence, R. I.
Wallace & Tiernan Products, Inc., 11 Mill St., Belleville 9, N. J.

FEEDERS—Dry Chemical:

Fuller Co., Catasauqua, Pa.
Infilco, Inc., 325 W. 25th Place, Chicago, Ill.
Jeffrey Mfg. Co., The, Columbus, Ohio
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Permutit Co., 330 W. 42nd St., New York City
Wallace & Tiernan Products, Inc., Belleville, N. J.

FEEDS—Proportionate: See PUMPS, PROPORTIONING:

FEED-WATER HEATERS—See HEATERS, Feed-Water:

FILTER CLAY—See CLAY, Contact:

FILTER CLOTH—Cotton, Wool, etc.:

Burcott Mills, 616 W. Fulton, Chicago, Ill.
Filter Media Corp., Irvington-on-Hudson, N. Y.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
National Filter Cloth & Weaving Co., New Haven, Conn.
Owens-Corning Fiberglas Corp., Toledo 1, Ohio
Sperry, D. R., & Co., Batavia, Ill.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Turner Halsey Co., 40 Worth St., New York City
Wellington Sears Co., 65 Worth St., New York, N. Y.

FILTER CLOTH—Metallic:

Bowser, Inc., Fort Wayne 2, Ind.
Cambridge Wire Cloth Co., Cambridge, Md.
Chase Brass & Copper Co., Waterbury, Conn.
Filter Media Corp., Hamden, Conn.
Goslin Birmingham Mfg. Co., Birmingham, Ala.
Jelliff, C. O., Mfg. Corp., The, Southport, Conn.
Michigan Wire Cloth Co., 2100 Howard, Detroit 16, Mich.
Multi-Metal Wire Cloth Co., Inc., 1350 Garrison Ave., Bronx, New York City
Newark Wire Cloth Co., Newark, N. J.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Roebling's, John A., Sons Co., Trenton, N. J.
Sperry, D. R., & Co., Batavia, Ill.
Tyler, W. S., Co., Cleveland 14, Ohio
Wickwire Spencer Steel Co., 500 Fifth Ave., New York City

FILTER LEAVES:

Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Haveg Corp., 919 N. Michigan, Chicago, Ill.
Michigan Wire Cloth Co., 2100 Howard, Detroit 16, Mich.
Multi-Metal Cloth Co., Inc., 1350 Garrison Ave., Bronx, New York City
Newark Wire Cloth Co., Newark, N. J.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Sperry, D. R., & Co., Batavia, Ill.

FILTERS—Air:

American Air Filter Co., Inc., Louisville, Ky.
Coppus Engineering Co., Worcester, Mass.
Cuno Engineering Co., Meriden, Conn.
Dallas Tank Co., Inc., Dallas, Tex.
Detroit Lubricator, 5900 Trumbull Ave., Detroit, Mich.
Dollinger Corp., Rochester, N. Y.
Donaldson Co., Inc., St. Paul, Minn.
Fisher Governor Co., Marshalltown, Iowa
Flotrol Systems, Inc., 385 Gerard Ave., New York 51, N. Y.
Kaye & MacDonald, Inc., West Orange, N. J.
Logan Engineering Co., Lawrence & Lamon Ave., Chicago, Ill.
Moore Products Co., H & Lycoming Sts., Philadelphia 24, Pa.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Owens-Corning Fiberglas Corp., Toledo 1, Ohio
Pritchard, J. F., & Co., Kansas City, Mo.
Skinner Purifiers, Inc., Detroit 11, Mich.
Trerice, H. O., Co., Detroit, Mich.

Vortox Mfg. Co., Claremont, Calif.
Westinghouse Air Brake Co., Wilmerding, Pa.
Winslow Engineering Co., 4069 Hollis St., Oakland 8, Calif.

FILTERS—Dewaxing:

Dallas Tank Co., Inc., Dallas, Tex.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Nooter, John, Boiler Works Co., St. Louis, Mo.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Patterson Foundry & Machine Co., E. Liverpool, Ohio
Sparkler Mfg. Co., Mundelein, Ill.
Sperry, D. R., & Co., Batavia, Ill.
Worthington Pump & Machinery Corp., Harrison, N. J.

FILTERS—Lubricating-Oil:

A C Spark Plug Div., General Motors Corp., Flint 2, Mich.
Air-Maze Corp., 5200 Harvard Ave., Cleveland, Ohio
Alsop Engineering Co., Milldale, Conn.
Bowser, Inc., Fort Wayne 2, Ind.
Briggs Clarifier Co., Bethesda, Md.
Cuno Engineering Co., Meriden, Conn.
Dallas Tank Co., Inc., Dallas, Tex.
De Luxe Products Corp., La Porte, Ind.
Dollinger Corp., Rochester, N. Y.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Griscom-Russell Co., The, 285 Madison Ave., New York 17, N. Y.
Hilliard Corp., The, Elmira, N. Y.
Honan Crane Corp., 702 Indianapolis Ave., Lebanon, Ind.
Kidde, Walter, & Co., 675 Main St., Belleville 9, N. J.
Kraissl Co., Inc., The, Hackensack, N. J.
Luber-Finer, Inc., Los Angeles 7, Calif.
Michiana Products Corp., Michigan City, Ind.
Nugent, Wm., W., Co., 410 N. Hermitage, Chicago 22, Ill.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Purolator Products, Inc., Newark, N. J.

FILTERS—Pressure:

Alsop Engineering Co., Milldale, Conn.
Biggs Boiler Works, The, Akron, Ohio
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graver Tank & Mfg. Co., 4809 Todd, East Chicago, Ind.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Shiver, T., & Co., Harrison, N. J.
Sparkler Mfg. Co., Chicago, Ill.
Worthington Pump & Machinery Corp., Harrison, N. J.

FILTERS—Vacuum:

Dollinger Corp., Rochester, N. Y.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Haveg Corp., 919 N. Michigan, Chicago, Ill.
McNamar Boiler & Tank Co., Tulsa, Okla.
Nugent, Wm. W., Co., 410 N. Hermitage, Chicago, Ill.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Skinner Purifiers, Inc., 1349 E. Milwaukee, Detroit, Mich.
Sparkler Mfg. Co., Chicago, Ill.
Whiting Corp., Harvey, Ill.

FILTERS—Water:

American Water Softener Co., 4th & Lehigh, Philadelphia, Pa.
Alsop Engineering Corp., Milldale, Conn.
Bowser, Inc., Fort Wayne 2, Ind.
Briggs Clarifier Co., Bethesda, Md.
Cochrane Corp., 17th & Allegheny Ave., Philadelphia 32, Pa.
Cuno Engineering Corp., Meriden, Conn.
Dallas Tank Co., Inc., Dallas, Tex.
Dollinger Corp., Rochester, N. Y.
Hamner, Leland, Co., Houston, Tex.
%Proportioneers, Inc.%, Providence, R. I.
Skinner Purifiers, Inc., 1500 Tromby, Detroit 11, Mich.
Sparkler Mfg. Co., Mundelein, Ill.
Sperry, D. R., & Co., Batavia, Ill.
Winslow Engineering Co., 4069 Hollis St., Oakland 8, Calif.
Worthington Pump & Machinery Corp., Harrison, N. J.

FIRE BRICK—See BRICK, Fire:

FIRE EXTINGUISHERS and FIRE-FIGHTING EQUIPMENT:

American La France & Foamite Corp., Elmira, N. Y.
American-Marsh Pumps, Inc., Battle Creek, Mich.
Automatic Sprinkler Corp. of America, Youngstown, Ohio
Brinkman, Inc., Houston, Tex.
Buffalo Fire Appliance Corp., Buffalo, N. Y.
Cardox Corp., Chicago, Ill.
C-O-Two Fire Equipment Co., Newark, N. J.
Davis Emergency Equipment Co., Inc., 66 Halleck St., Newark, N. J.
Dugas Div. of Ansul Chemical Corp., Marinette, Wis.
General Detroit Corp., The, Detroit 7, Mich.
Grinnell Co., Inc., 260 W. Exchange St., Providence 1, R. I.
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Kidde, Walter, & Co., 675 Main St., Belleville 9, N. J.
National Foam System, Inc., 1410 Packard Bldg., Philadelphia, Pa.
National Powder Extinguisher Co., 50 Rockefeller Plaza, New York City
Pyrene Mfg. Co., 520 Belmont Ave., Newark 8, N. J.

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Rockwood Sprinkler Co., Worcester, Mass.
Spray Engineering Co., Somerville, Mass.

FIRE HYDRANTS—See HYDRANTS, Fire:

FIRST-AID MATERIALS:

Bullard, E. D., Co., 275 Eighth St., San Francisco, Calif.
Davis Emergency Equipment Co., Inc., Newark, N. J.
General Detroit Corp., The, Detroit 7, Mich.
McDonald, B. F., Co., 1248 S. Hope St., Los Angeles 15, Calif.
Milburn Co., 905 Henry St., Detroit, Mich.
Mine Safety Appliances Co., Braddock, Thomas and Meade Sts., Pittsburgh, Pa.

FITTINGS—Alloy:

Chase Brass & Copper Co., Waterbury, Conn.
Copper Alloy Foundry Co., Hillside, N. J.
Haynes Stellite Co., Kokomo, Ind.
Maintenance Engineering Corp., Houston, Tex.
National Lead Co., 111 Broadway, New York City
Ohio Steel Foundry Co., The, Springfield, Ohio
Penn Mfg. Corp., Washington, Pa.
Sivyer Steel Casting Co., Milwaukee, Wis.
Watson-Stillman Co., Roselle, N. J.
York Corp., York, Pa.
Youngstown Welding & Engineering Co., Youngstown, Ohio

FITTINGS—Ammonia:

Frick Co., Waynesboro, Pa.
Vogt, Henry, Machine Co., Louisville 10, Ky.
Watson-Stillman Co., Roselle, N. J.
York Corp., York, Pa.

FITTINGS—Bronze:

Belfield Co., H., Philadelphia, Pa.
Chase Brass & Copper Co., Waterbury, Conn.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Desser Mfg. Co., Bradford, Pa.
Grinnell Co., Inc., 260 W. Exchange St., Providence 1, R. I.
Kennedy Valve Mfg. Co., The, Elmira, N. Y.
Morrison Brothers, Dubuque, Iowa
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Powell, Wm., Co., The, Cincinnati 22, Ohio
Walworth Co., 60 E. 42nd St., New York City

FITTINGS—Cast-Iron:

American Cast Iron Pipe Co., Birmingham 2, Ala.
Belfield Co., H., Philadelphia, Pa.
Cast Iron Pipe Research Assn., 122 S. Michigan Ave., Chicago, Ill.
Clow, James B., & Sons, 201 N. Talman, Chicago, Ill.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Detroit Brass & Malleable Works, 100 S. Campbell Ave., Detroit, Mich.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Flagg, Stanley G., & Co., 1421 Chestnut St., Philadelphia, Pa.
Grinnell Co., Inc., Providence 1, R. I.
Jarecki Mfg. Co., St. Louis, Mo.
Kennedy Valve & Mfg. Co., The, Elmira, N. Y.
McWane Cast Iron Pipe Co., Birmingham, Ala.
M & H Valve & Fittings Co., Anniston, Ala.
Pittsburgh Valve & Fittings Corp., Barberton, Ohio
Powell, Wm., Co., The, Cincinnati 22, Ohio

FITTINGS—Cast-Steel:

Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Duraloy Corp., Scottdale, Pa.
Jarecki Mfg. Co., St. Louis, Mo.
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
Key Co., East St. Louis, Ill.

Limbert, George B. Co., 570 Fulton, Chicago, Ill.
Ohio Steel Foundry Co., The, Springfield, Ohio
Pittsburgh Piping & Equipment Co., 10 43rd St., Pittsburgh, Pa.
Powell, Wm., Co., The, Cincinnati 22, Ohio
Reading-Pratt & Cady Div., American Chain & Cable Co., Inc., Reading, Pa.
Ross-Meehan Foundries, Chattanooga, Tenn.
Security Engineering Co., Inc., Whittier, Calif.
Sivyer Steel Casting Co., Milwaukee, Wis.
Thornhill-Craver Co., Houston, Tex.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.
York Corp, York, Pa.

FITTINGS—Chain:
Thos. Loughlin Co., Portland, Me.
Upson Walton Co., Cleveland, Ohio
Wilcox-Crittenden Co., Middletown, Conn.

FITTINGS—Drop Forged Steel:
Bonney Forge & Tool Works, Allentown, Pa.
Harrisburg Steel Corp., Harrisburg, Pa.
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburg, Pa.
Logansport Machine Co., Inc., Logansport, Ind.
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Vogt, Henry, Machine Co., Louisville, Ky.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Roselle, N. J.

FITTINGS—Electric Lighting:
Appleton Electric Co., 1713 Wellington, Chicago 13, Ill.
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Crouse-Hinds Co., Syracuse, N. Y.
General Electric Co., Schenectady, N. Y.
Russell & Stoll Co., Inc., 125 Barclay St., New York 7, N. Y.

FITTINGS—Forged Steel:
Bonney Forge & Tool Works, Allentown, Pa.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Endicott Forging & Mfg. Co., Inc., Endicott, N. Y.
Jarecki Mfg. Co., St. Louis, Mo.
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
Ladish Drop Forge Co., Cudahy, Wis.
Larkin Packer Co., 1502 Maury St., Houston, Tex.
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Penn Mfg. Co., Washington, Pa.
Texas Pipe Bending Co., Houston, Tex.
Thornhill-Craver Co., Houston, Tex.
Tube Turns, Louisville, Ky.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.
Worthington Pump & Machinery Corp., Harrison, N. J.
York Corp., York, Pa.

FITTINGS—Malleable:
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Dresser Mfg. Co., Bradford, Pa.
Grinnell Co., Inc., Providence 1, R. I.
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Jarecki Mfg. Co., St. Louis, Mo.
Kennedy Valve & Mfg. Co., The, Elmira, N. Y.
Powell, Wm., Co., The, Cincinnati 22, Ohio
Stockholm Pipe Fittings Co., Birmingham, Ala.
Thornhill-Craver Co., Houston, Tex.
Victaulic Co. of America, 30 Rockefeller Plaza, New York City
Walworth Co., 60 E. 42nd St., New York City

FITTINGS — Orifice: See ORIFICE FITTINGS:

FITTINGS—Tank: See Specific Items:

FITTINGS—Welding:
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Bonney Forge & Tool Works, Allentown, Pa.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Dresser Mfg. Co., Bradford, Pa.
Globe Steel Tubes Co., 3839 W. Burnham St., Milwaukee 4, Wis.
Grinnell Co., Inc., Providence, R. I.
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Jarecki Mfg. Co., St. Louis, Mo.
Ladish Drop Forge Co., Cudahy, Wis.
Norris, W. C., Mfr., Inc., 10 N. Elwood, Tulsa, Okla.
Ohio Steel Foundry Co., The, Springfield, Ohio
Penn Mfg. Corp., Washington, Pa.
Rockwood Sprinkler Co., Worcester, Mass.
Sivyer Steel Casting Co., Milwaukee, Wis.
Stacey Mfg. Co., The, Cincinnati, Ohio
Southwest Welding & Mfg. Co., Alhambra, Calif.
Taylor Forge & Pipe Works, Chicago 90, Ill.
Texas Pipe Bending Co., Houston, Tex.
Thornhill-Craver Co., Houson, Tex.
Tube-Turns, Louisville, Ky.
Vogt, Henry, Machine Co., Louisville, Ky.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.
York Corp., York, Pa.

FITTINGS—Wire Rope:
American Cable Div., Am. Chain & Cable Co., Inc., York, Pa.
Hazard Wire Rope Div., Am. Chain & Cable Co., Inc., Wilkes-Barre, Pa.
Laughlin, Thos., Inc., Portland, Me.
Upson-Walton Co., Cleveland, Ohio
Wilcox-Crittenden Co., Middletown, Conn.

FLAME ARRESTORS—See ARRESTORS, Flame:

FLANGES—Blind:
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Frick Co., Waynesboro, Pa.
Grinnell Co., Inc., 260 W. Exchange St., Providence 1, R. I.
Jarecki Mfg. Co., St. Louis, Mo.
Kennedy Valve & Mfg. Co., The, Elmira, N. Y.
Kropp Forge Co., 5301 W. Roosevelt Rd., Chicago, Ill.
M & H Valve & Fittings Co., Anniston, Ala.
Norris, W. C., Mfr., Inc., 10 N. Elwood, Tulsa, Okla.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Pittsburgh Valve & Fittings Corp., Barberton, Ohio
Stockholm Pipe Fittings Co., Birmingham, Ala.
Taylor Forge & Pipe Works, Chicago 90, Ill.
Texas Pipe Bending Co., Houston, Tex.
Thornhill-Craver Co., Houston, Tex.
Tube-Turns, Louisville, Ky.
Walworth Co., 60 E. 42nd St., New York City
Wyatt Metal & Boiler Works, Houston, Tex.

FLANGES—Bronze:
Chase Brass & Copper Co., Waterbury, Conn.
Grinnell Co., Inc., 260 W. Exchange St., Providence 1, R. I.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Powell, Wm., Co., The, Cincinnati 22, Ohio
Shenango-Penn Mold Co., Dover, Ohio
Walworth Co., 60 E. 42nd St., New York City

FLANGES—Cast-Iron:
Alten's Foundry & Machine Works, Lancaster, Ohio
American Cast Iron Pipe Co., Birmingham, Ala.
Cast Iron Pipe Research Assn., 122 S. Michigan, Chicago, Ill.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Grinnell Co., Inc., Providence, R. I.
Jarecki Mfg. Co., St. Louis, Mo.
Johnston & Jennings Co., The, 884 Addison Rd., Cleveland 14, Ohio
Kennedy Valve & Mfg. Co., The, Elmira, N. Y.
Ludlow Valve Mfg. Co., Troy, N. Y.
M & H Valve & Fittings Co., Anniston, Ala.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Powell, Wm., Co., The, Cincinnati 22, Ohio
Ross-Meehan Foundries, Chattanooga, Tenn.
York Corp., York, Pa.

FLANGES—Cast-Steel:
American Flange & Mfg. Co., 30 Rockefeller Plaza, New York City
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Frick Co., Waynesboro, Pa.
Jarecki Mfg. Co., St. Louis, Mo.
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
Key Co., East St. Louis, Ill.
Kropp Forge Co., 5301 W. Roosevelt Rd., Chicago, Ill.
Ohio Steel Foundry Co., The, Springfield, Ohio
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Powell, Wm., Co., The, Cincinnati 22, Ohio
Ross-Meehan Foundries, Chattanooga, Tenn.
Sivyer Steel Casting Co., Milwaukee, Wis.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.

FLANGES—Companion:
Chase Brass & Copper Co., Waterbury, Conn.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Grinnell Co., Inc., Providence, R. I.
Jarecki Mfg. Co., St. Louis, Mo.
Jenkins Brothers, 80 White St., New York City
Johnston & Jennings Co., The, 884 Addison Rd., Cleveland 14, Ohio
Kennedy Valve & Mfg. Co., The, Elmira, N. Y.
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
Ladish Drop Forge Co., Cudahy, Wis.
M & H Valve & Fittings Co., Anniston, Ala
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Pittsburgh Piping & Equipment Co., 10 43rd St., Pittsburgh, Pa.
Powell, Wm., Co., The, Cincinnati 22, Ohio
Reading-Pratt & Cady Div., American Chain & Cable Co., Inc., Reading, Pa.
Sivyer Steel Casting Co., Milwaukee, Wis.
Stockholm Pipe Fittings Co., Birmingham, Ala.
Taylor Forge & Pipe Works, Chicago 90, Ill.
Texas Pipe Bending Co., Houston, Tex.
Tube-Turns, Louisville, Ky.
Walworth Co., 60 E. 42nd St., New York City
Weber Engine Works, Kansas Ciy, Mo.

FLANGES—Forged Steel:
Associated Piping & Engr. Co., Los Angeles, Calif.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Grinnell Co., Inc., Providence, R. I.
Harrisburg Steel Corp., Harrisburg, Pa.

Jarecki Mfg. Co., St. Louis, Mo.
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
Kropp Forge Co., 5301 W. Roosevelt Rd., Chicago, Ill.
Ladish Drop Forge Co., Cudahy, Wis.
Midwest Piping & Supply Co., St. Louis, Mo.
Norris, W. C., Mfr., Inc., 10 N. Elwood, Tulsa, Okla.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Pittsburgh Piping & Equipment Co., 10 43rd St., Pittsburgh, Pa.
Ryerson, Jos. T., & Son, Inc., Chicago, Ill.
Steel Improvement & Forge Co., The, 960 Addison Rd., Cleveland, Ohio
Taylor Forge & Pipe Works, Chicago 90, Ill.
Texas Pipe Bending Co., Houston, Tex.
Tube Turns, Louisville, Ky.
Vogt, Henry, Machine Co., Louisville, Ky.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.
Wyatt Metal & Boiler Works, Houston, Tex.
York Corp., York, Pa.

FLANGES—Malleable:
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Flagg, Stanley G., & Co., 1421 Chestnut St., Philadelphia, Pa.
Grinnell Co., Inc., Providence, R. I.
Jarecki Mfg. Co., St. Louis, Mo.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Walworth Co., 60 E. 42nd St., New York City

FLANGES—Orifice:
Alten's Foundry & Machine Works, Lancaster, Ohio
Bristol Co., The, Waterbury, Conn.
Daniel Orifice Fitting Co., 3352 Union Pacific Ave., Los Angeles 23, Calif.
Foxboro Co., The, Foxboro, Mass.
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
Kropp Forge Co., 5301 W. Roosevelt Rd., Chicago, Ill.
Ladish Drop Forge Co., Cudahy, Wis.
Maintenance Engineering Corp., 3611 Clinton Dr., Houston, Tex.
Meriam Co., The, 1955 W. 112th St., Cleveland, Ohio
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Robinson Orifice Fitting Co., 1435 Santa Fe Ave., Los Angeles 21, Calif.
Taylor Forge & Pipe Works, Chicago 90, Ill.
Taylor Instrument Co., Rochester, N. Y.
Tube Turns, Louisville, Ky.
Watson-Stillman Co., Fitting Div., Roselle, N. J.
Wescott & Greis, Inc., Kennedy Bldg., Tulsa, Okla.

FLANGES—Welding—See FITTINGS, Welding:

FLASHLIGHTS—Electric:
Justrite Manufacturing Co., 2063 N. Southport Ave., Chicago 14, Ill.

FLEXIBLE BALL JOINTS — See JOINTS, Flexible Ball:

FLEXIBLE COUPLINGS—See COUPLINGS, Shaft, Flexible:

FLEXIBLE TUBING — See TUBING, Flexible, Metal:

FLOOR PLATES — See FLOORING, also GRATING:

FLOORING—Steel, Safety-Tread:
Allied Steel Products Corp., Tulsa, Okla.
American Abrasive Metals Co., Irvington, N. J.

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FLOW METERS—See METERS, Flow:

FLOW RECORDERS — See RECORDERS, Flow:

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Duff-Norton Mfg. Co., The, 2709 Preble Ave., Pittsburgh, Pa.
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Lummus Co., The, 420 Lexington Ave., New York City 17
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GAS COMPRESSORS—See COMPRESSORS:

GAS COOLERS—See COOLERS, Gas:

GAS DEHYDRATION PROCESSES — See PROCESSES, Gas Dehydration:

GAS ENGINES—See ENGINES, Gas:

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GAS POLYMERIZATION—See PROCESSES, Refinery:

GAS-PURIFICATION PROCESSES — See PROCESSES, Gas:

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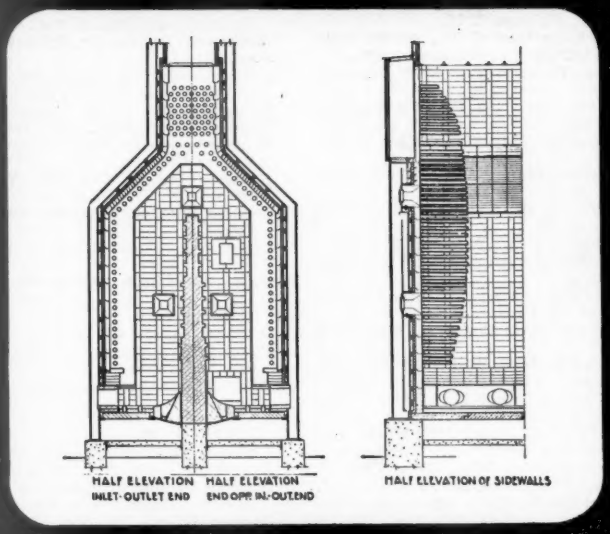

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Chicago Belting Co., 125 N. Green, Chicago, Ill.
Chicago Wilcox Mfg. Co., 7701 S. Avalon, Chicago, Ill.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Ernst Water Column & Gage Co., Livingston, N. J.
Farnam Co., F. D., 4940 W. Flournoy St., Chicago 44, Ill.
Felt Products Mfg. Co., Chicago, Ill.
Frick Co., Waynesboro, Pa.
Garlock Packing Co., Palmyra, N. Y.
Gates Rubber Co., The, 999 S. Broadway, Denver 17, Colo.
General Tire & Rubber Co., Akron, Ohio
Goetze Gasket & Packing Co., New Brunswick, N. J.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Green, Tweed & Co., 4377 Bronx Blvd., New York 64, N. Y.
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Hewitt Rubber Corp., Buffalo, N. Y.
Houghton, E. F., & Co., 303 W. Lehigh, Philadelphia 33, Pa.
Jenkins Brothers, 80 White St., New York City
Johns-Manville Corp., 22 E. 40th St., New York City
Lima Cord Sole & Heel Co., Lima, Ohio
Linear Packing & Rubber Co., Philadelphia, Pa.
McCord Corp., 2587 E. Grand, Detroit, Mich.
MacClatchie Mfg. Co., Compton, Calif.
Maloney, F. H., Co., Houston, Tex.
Maloney, F. H., Co., Houston, Tex.
Manhattan Rubber Mfg. Div., The, of Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., 1 Market St., Passaic, N. J.
Melrath Supply & Gasket Co., Inc., Tioga and Memphis Sts., Philadelphia, Pa.
Quaker Rubber Corp., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Manheim, Pa.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Republic Rubber Co., The, Youngstown, Ohio
Sterling Packing & Gasket Co., Houston, Tex.
Stevens Asbestos Products Co., Tulsa, Okla.
Union Asbestos & Rubber Co., Cicero, Ill.
U. S. Rubber Co., 1230 Sixth Ave., New York City
U. S. Stoneware Co., Akron 9, Ohio
Victor Mfg. & Gasket Co., 5750 W. Roosevelt Rd., Chicago, Ill.
Westinghouse Air Brake Co., Wilmerding, Pa.

GASKETS—Sheet:
Akron Metallic Gasket Co., Akron, Ohio
Armstrong Cork Co., Lancaster, Pa.
Belmont Packing & Rubber Co., Butler & Sepviva, Philadelphia, Pa.
Chicago Wilcox Mfg. Co., 7701 S. Avalon, Chicago, Ill.
Darcoid Co., Inc., 149 Sixth Ave., New York City
Durabla Mfg. Co., 114 Liberty St., New York City
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Farnam Co., F. D., 4940 W. Flournoy St., Chicago, Ill.
Felt Products Mfg. Co., Chicago, Ill.
Garlock Packing Co., Palmyra, N. Y.
Goetze Gasket & Packing Co., New Brunswick, N. J.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Green, Tweed & Co., 4377 Bronx Blvd., New York 64, N. Y.
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Johns-Manville Corp., 22 E. 40th St., New York City
Klingerit, Inc., 16 Hudson St., New York City
MacClatchie Mfg. Co., Compton, Calif.
Manhattan Rubber Mfg. Div., The, of Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., 1 Market St., Passaic, N. J.
Metallo Gasket Co., New Brunswick, N. J.
Quaker Rubber Corp., Philadelphia, Pa.
Raybestos Div., Bridgeport, Conn.
Raybestos-Manhattan, Inc., Passaic, N. J.
Republic Rubber Co., The, Youngstown, Ohio
Resistoflex Corp., Belleville, N. J.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sterling Packing & Gasket Co., Houston, Tex.
U. S. Asbestos Div., Manheim, Pa.
U. S. Rubber Co., 1230 Sixth Ave., New York City
U. S. Stoneware Co., Akron 9, Ohio
Victor Mfg. & Gasket Co., 5750 W. Roosevelt Rd., Chicago, Ill.

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Akron Metallic Gasket Co., Akron, Ohio
Chicago Wilcox Mfg. Co., 7701 S. Avalon, Chicago, Ill.
Garlock Packing Co., Palmyra, N. Y.
Goetze Gasket & Packing Co., New Brunswick, N. J.

Green, Tweed & Co., 4377 Bronx Blvd., New York 64, N. Y.
Johns-Manville Corp., 22 E. 40th St., New York City
Laminated Shim Co., Inc., Glenbrook, Conn.
McCord Corp., 2587 E. Grand, Detroit, Mich.
Melrath Supply & Gasket Co., Inc., Tioga and Memphis Sts., Philadelphia, Pa.
Metallo Gasket Co., New Brunswick, N. J.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Steel Improvement & Forge Co., The, 960 Addison Rd., Cleveland, Ohio
Sterling Packing & Gasket Co., Houston, Tex.
Victor Mfg. & Gasket Co., 5750 W. Roosevelt Rd., Chicago, Ill.

GASOLINE DYES—See DYES, Gasoline:

GASOMETERS:
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Pollack, William B., Co., Youngstown, Ohio

GAUGE COCKS—See COCKS, Gauge:

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Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Crosby Steam Gage & Valve Co., 165 Broadway, New York City
Ellison Draft Gage Co., 214 W. Kinzie St., Chicago 26, Ill.
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Mansfield & Green, 4601 Euclid Ave., Cleveland 3, Ohio
Star Brass Mfg. Co., Boston, Mass.
Trimount Inst. Co., 37 W. Van Buren, Chicago 5, Ill.

GAUGES—Absolute Pressure:
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Engineering Laboratories, Tulsa, Okla.
Foxboro Co., Foxboro, Mass.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Moore Products Co., H & Lycoming Sts., Philadelphia 24, Pa.
Republic Flow Meters Co., Chicago, Ill.
Star Brass Mfg. Co., 108 E. Dedham, Boston 18, Mass.
Trimount Inst. Co., 37 W. Van Buren St., Chicago 5, Ill.
United States Gauge Div. of American Mach. & Metals, Inc., Sellersville, Pa.
Wallace & Tiernan Products, Inc., 11 Mill St., Belleville 9, N. J.

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Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Guardian Electric Co., 1623 W. Walnut St., Chicago, Ill.
Johnston & Jennings Co., The, 884 Addison Rd., Cleveland 14, Ohio
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Moore Products Co., H & Lycoming Sts., Philadelphia 24, Pa.
Pneumercator Co., 305 E. 46th St., New York City
Shand & Jurs Co., Berkeley, Calif.
Smith Meter Co., Los Angeles, Calif.
Tokheim Co., Cedar Rapids, Iowa
Vapor Recovery Systems Co., The, Compton, Calif.
Viking Pump Co., Cedar Falls, Iowa

GAUGES—Compound Pressure and Vacuum, Indicating:
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Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Crosby Steam Gage & Valve Co., 165 Broadway, New York City
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Farris Engineering Co., Palisades Park, N.J.
Foxboro Co., Foxboro, Mass.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Kent, George, Ltd., Luton, Bedfordshire, England
Lonergan, J. E., Co., Philadelphia, Pa.
Marsh, Jas. P., Corp., 2073 Southport, Chicago, Ill.
Marshalltown Mfg. Co., Marshalltown, Iowa
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Star Brass Mfg. Co., 108 E. Dedham, Boston 18, Mass.
Stoelting, C. H., Co., 424 N. Homan Ave., Chicago 24, Ill.
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Trerice, H. C., Co., Detroit, Mich.
United States Gauge Div. of American Mach. & Metals, Inc., Sellersville, Pa.

GAUGES—Draft:
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Ellison Draft Gage Co., 214 W. Kinzie St., Chicago 26, Ill.
Foxboro Co., The, Foxboro, Mass.
Republic Flow Meters Co., Chicago, Ill.
Trimount Inst. Co., 37 W. Van Buren St., Chicago 5, Ill.
United States Gauge Div. of American Mach. & Metals, Inc., Sellersville, Pa.

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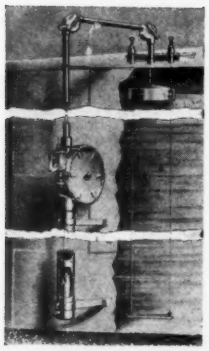

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Foxboro Co., Foxboro, Mass.
Marsh, Jas. P., Corp., 2073 Southport, Chicago, Ill.
Mercoid Corp., 4201 Belmont, Chicago, Ill.
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Star Brass Mfg. Co., Boston, Mass.
Trerice, H. O., Co., Detroit, Mich.
United States Gauge Div. of American Mach. & Metals, Inc., Sellersville, Pa.
Watson-Stillman Co., Roselle, N. J.

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Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Barton Instrument Co., 2306 E. 38th St., Los Angeles 11, Calif.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Crosby Steam Gage & Valve Co., 165 Broadway, New York City 6
Dallas Tank Co., Inc., Dallas, Tex.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Ernst Water Column & Gage Co., Livingston, N. J.
Foxboro Co., Foxboro, Mass.
Frick Co., Waynesboro, Pa.
General Electric Co., Schenectady, N. Y.
Guardian Electric Co., 1400 W. Washington St., Chicago 7, Ill.
Jerguson Gage & Valve Co., Somerville, Mass.
Johnston & Jennings Co., The, 884 Addison Rd., Cleveland 14, Ohio
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Kent, George, Ltd., Luton, Bedfordshire, England
Lunkenheimer Co., The, Cincinnati, Ohio
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Mason Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Meriam Co., The, 1955 W. 112th St., Cleveland, Ohio
Moore Products Co., Philadelphia 24, Pa.
Nelson Automatic Gauge Co., 402 Oklahoma Nat'l Gas Bldg., Tulsa 3, Okla.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Oil Equipment, Inc., 718 W. 63rd St., Chicago 21, Ill.
Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.
Powell, Wm., Co., The, Cincinnati 22, Ohio
Republic Flow Meters Co., Chicago, Ill.
Rochester Mfg. Co., Inc., Rochester, N. Y.
Shand & Jurs Co., Berkeley, Calif.
Smith Meter Co., Los Angeles, Calif.
Star Brass Mfg. Co., 108 E. Dedham St., Boston 18, Mass.
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Tokheim Co., Cedar Rapids, Iowa
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Trimount Inst. Co., 37 W. Van Buren St., Chicago 5, Ill.
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Vogt, Henry, Machine Co., Louisville, Ky.
Yarnall-Waring Co., Chestnut Hill, Philadelphia 18, Pa.

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Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Crosby Steam Gage & Valve Co., 165 Broadway, New York City

Foxboro Co., Foxboro, Mass.
Guardian Electric Mfg. Co., 1400 W. Washington St., Chicago 7, Ill.
Johnston & Jennings Co., Cleveland, Ohio
Kent, George, Ltd., Luton, Bedfordshire, England
Liquidometer Corp., The, Long Island, City 1, N. Y.
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Mason Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Moore Products Co., Philadelphia 24, Pa.
Oil Equipment, Inc., 718 W. 63rd St., Chicago 21, Ill.
Republic Flow Meters Co., Chicago, Ill.
Simplex Valve & Meter Co., 68th and Upland Sts., Philadelphia, Pa.
Star Brass Mfg. Co., 108 E. Dedham St., Boston 18, Mass.
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A C Spark Plug Div., General Motors Corp., Flint 2, Mich.
American Meter Co., Inc., 60 E. 42nd St., New York 17, N. Y.
Ashton Valve Co., Cambridge, Mass.
Automatic Temperature Control Co., Inc., Philadelphia 44, Pa.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Crosby Steam Gage & Valve Co., 165 Broadway, New York City
Dallas Tank Co., Inc., Dallas, Tex.
Engineering Laboratories, Tulsa, Okla.
Farris Engineering Co., Palisades Park, N. J.
Foxboro Co., Foxboro, Mass.
General Electric Co., Schenectady, N. Y.
Hays, A. M., Corp., Michigan City, Ind.
Helicoid Gage Div., American Chain & Cable Co., Inc., Bridgeport, Conn.
Johnston & Jennings Co., Cleveland, Ohio
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Kent, George, Ltd., Luton, Bedfordshire, England
Marsh, Jas. P., Corp., 2065 Southport, Chicago, Ill.
Moore Products Co., Philadelphia 24, Pa.
Oil Well Supply Co., Dallas, Tex.
Permutit Co., 330 W. 42nd St., New York City
Pittsburgh Equitable Meter Co., 400 Lexington Ave., Pittsburgh, Pa.
Republic Flow Meters Co., Chicago, Ill.
Star Brass Mfg. Co., Boston, Mass.
Stoelting, C. H., Co., 424 N. Homan Ave., Chicago 24, Ill.
Swift Lubricator Co., Elmira, N. Y.
Tagliabue, C. J., Mfg. Co., Park Ave. and Nostrand Ave., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trerice, H. O., Co., Detroit, Mich.
Trimount Inst. Co., 37 W. Van Buren St., Chicago 5, Ill.
United States Gauge Div. of American Mach. & Metals, Inc., Sellersville, Pa.
Vapor Recovery Systems Co., Compton, Calif.
Westinghouse Air Brake Co., Wilmerding, Pa.

GAUGES—Pressure, Recording:
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Crosby Steam Gage & Valve Co., 165 Broadway, New York City
Electro Products Lab., 549 W. Randolph, Chicago, Ill.
Esterline Angus Co., Inc., Indianapolis 6, Ind.
Foxboro Co., Foxboro, Mass.
Johnston & Jennings Co., Cleveland, Ohio
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Kent, George, Ltd., Luton, Bedfordshire, England
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Mason Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Mercoid Corp., 4201 Belmont, Chicago, Ill.
Moore Products Co., Philadelphia 24, Pa.
Pittsburgh Equitable Meter Co., 400 Lexington Ave., Pittsburgh, Pa.
Republic Flow Meters Co., Chicago, Ill.
Tagliabue, C. J. Mfg. Co., Park Ave. and Nostrand Ave., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Wheelco Instruments Co., Harrison and Peoria Sts., Chicago, Ill.

GAUGES—Reflex:
Ernst Water Column & Gage Co., Livingston, N. J.
Inferno Co., The, Shreveport, La.
Jerguson Gage & Valve Co., Somerville, Mass.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Klinger, Richard, Ltd., Sidcup (Kent), England
Newman, Hender & Co., Ltd., Woodchester, England
Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.
Swift Lubricator Co., Elmira, N. Y.
Wright-Austin Co., 315 W. Woodbridge St., Detroit, Mich.
Yarnall-Waring Co., Chestnut Hill, Philadelphia 18, Pa.

GAUGES—Tank:
American Injector Co., 1481 14th Ave., Detroit, Mich.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Ernst Water Column & Gage Co., Livingston, N. J.
Guardian Electric Co., 1400 W. Washington St., Chicago 7, Ill.
Jerguson Gage & Valve Co., Somerville, Mass.
Johnson & Jennings Co., The, 884 Addison Rd., Cleveland 14, Ohio
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
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Liquidometer Corp., The, Long Island City 1, N. Y.
Lufkin Rule Co., Saginaw, Mich.
Meriam Co., The, 1955 W. 112th St., Cleveland, Ohio
Moore Products Co., H & Lycoming Sts., Philadelphia 24, Pa.
Nathan Mfg. Co., 416 E. 106th St., New York City
National Airoil Burner Co., 1236 E. Sedgley Ave., Philadelphia, Pa.
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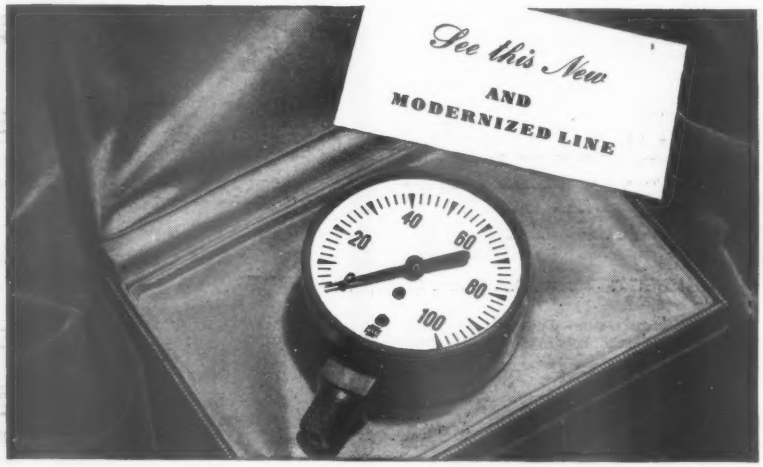

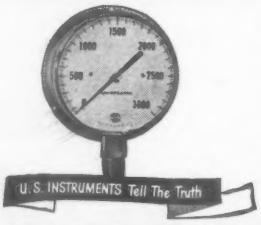

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Smith Meter Co., Los Angeles, Calif.

Mercoid Corp., 4201 Belmont, Chicago, Ill.
Moore Products Co., H & Lycoming Sts., Philadelphia 24, Pa.
Precision Scientific Co., 1750 N. Springfield, Chicago, Ill.
Rochester Mfg. Co., Inc., Rochester, N. Y.
Sarco Co., Inc., 475 Fifth Ave., New York City

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Vapor Recovery Systems Co., The, Compton, Calif.
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Brown Instrument Co., Wayne Ave., Philadelphia 44, Pa.
Engineering Laboratories, Tulsa, Okla.
Foxboro Co., Foxboro, Mass.
Johnston & Jennings Co., The, 884 Addison Rd., Cleveland 14, Ohio

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Taylor Instrument Companies, Rochester, N. Y.
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Weston Electrical Instrument Corp., Newark, N. J.
Wheelco Instruments Co., Harrison and Peoria Sts., Chicago, Ill.

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Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.

Brown Instrument Co., Wayne Ave., Philadelphia 22, Pa.
Engineering Laboratories, Tulsa, Okla.
Foxboro Co., Foxboro, Mass.
Liquidometer Corp., The, Long Island City 1, N. Y.
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Moore Products Co., H & Lycoming Sts., Philadelphia 24, Pa.
Tagliabue, C. J., Mfg. Co., Park Ave. and Nostrand Ave., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trerice, H. O., Co., Detroit, Mich.
Wheelco Instruments Co., Harrison and Peoria Sts., Chicago, Ill.

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Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., Wayne Ave., Philadelphia 44, Pa.
Continental Electric Co., Geneva, Ill.
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Farris Engineering Co., Palisades Park, N. J.
Foxboro Co., Foxboro, Mass.
General Electric Co., Schenectady, N. Y.
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Republic Flow Meters Co., Chicago, Ill.
Rochester Mfg. Co., Inc., Rochester, N. Y.
Star Brass Mfg. Co., 108 E. Dedham St., Boston 18, Mass.
Stoelting, C. H., Co., 424 N. Homan Ave., Chicago 24 Ill.
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Trerice ,H. O., Co., Detroit, Mich.
Trimount Inst. Co., 37 W. Van Buren St., Chicago 5, Ill.
United States Gauge Div. of American Mach. & Metals, Inc., Sellersville, Pa.

GAUGES—Vacuum Recording:
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., Wayne Ave., Philadelphia 44, Pa.
Crosby Steam Gage & Valve Co., 165 Broadway, New York City
Esterline Angus Co., Inc., Indianapolis 6, Ind.
Foxboro Co., Foxboro, Mass.
Hays, A. M., Corp., Michigan City, Ind.
Kent, George, Ltd., Luton, Bedfordshire, England
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Mason Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Moore Products Co., Philadelphia 24, Pa.
Republic Flow Meters Co., Chicago, Ill.
Tagliabue, C. J., Mfg. Co., Park Ave. and Nostrand Ave., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trerice, H. O., Co., Detroit, Mich.

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GAUGING TAPES—See TAPES, Gauging:

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Foote Brothers Gear & Machine Co., 4545 S. Western, Chicago, Ill.
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Jones, W. A., Foundry & Machine Co., 4401 W. Roosevelt Rd., Chicago, Ill.
Link-Belt Co., 2045 W. Hunting Park Ave., Philadelphia 40, Pa.
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Waukesha Motor Co., Waukesha, Wis.
Westinghouse Electric Corp., East Pittsburgh, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

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Coppus Engineering Co., Worcester, Mass.
DeLaval Steam Turbine Co., Trenton, N. J.
Elliott Co., Jeannette, Pa.
General Electric Co., Schenectady, N. Y.
Murray Iron Works Co., Burlington, Iowa
Westinghouse Electric Corp., East Pittsburgh, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

GENERATING PLANTS—Gasoline-Driven:

Continental Motors Corp., Muskegon, Mich.
General Power, Inc., Quapaw, Okla.
Hobart Brothers Co., Troy, Ohio
Homelite Corp., Port Chester, N. Y.
Lister-Blackstone, Inc., 6619 W. Mitchell St., Milwaukee 14, Wis.
Master Vibrator Co., Dayton, Ohio
Ready Power Co., The, Kales Bldg., Detroit, Mich.
Sterling Machinery Corp., Kansas City, Mo.
Universal Motor Co., Oshkosh, Wis.

GENERATOR SETS:

Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
Allis, Louis, Co., The, Milwaukee, Wis.
Buda Co., Harvey, Ill.
Buffalo Gasolene Motor Co., Buffalo, N. Y.
Caterpillar Tractor Co., Peoria, Ill.
Century Electric Co., St. Louis 3, Mo.
Climax Engineering Co., Dallas, Tex.
Continental Electric Co., 335 Ferry St., Newark, N. J.
Ingersoll-Rand Co., Phillipsburg, N. J.
Le Roi Co., Milwaukee 14, Wis.
Lister-Blackstone, Inc., 6619 W. Mitchell St., Milwaukee 14, Wis.
Master Electric Co., Dayton, Ohio
Moon Mfg. Co., 122 N. Jefferson, Chicago, Ill.
Murphy Diesel Co., Milwaukee, Wis.
National Supply Co., The, Toledo 1, Ohio
Nelson Electric Mfg. Co., Tulsa, Okla.
Novo Engine Co., Lansing, Mich.
Onan, D. W., & Sons, Minneapolis, Minn.
Pioneer Gen-E-Motor Corp., 466 W. Superior, Chicago, Ill.
Ready Power Co., The, Kales Bldg., Detroit, Mich.
Sturtevant, B. F., Co., Hyde Park, Boston, Mass.
Troy Engine & Machine Co., Troy, Pa.
Universal Motor Co., Oshkosh, Wis.
Weber Engine Works, Kansas City, Mo.
Westinghouse Electric Corp., East Pittsburgh, Pa.
Winpower Mfg. Co., Newton, Iowa
Witte Engine Works, Kansas City, Mo.

GENERATOR UNITS—Turbine-Driven:

Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
Climax Engineering Co., Dallas, Tex.
Continental Electric Co., 335 Ferry St., Newark, N. J.
DeLaval Steam Turbine Co., Trenton, N. J.
Elliott Co., Jeannette, Pa.
General Electric Co., Schenectady, N. Y.
Moon Mfg. Co., 122 N. Jefferson, Chicago, Ill.
Murray Iron Works Co., Burlington, Iowa
Pyle National Co., 1334 N. Kostner, Chicago, Ill.
Terry Steam Turbine Co., The, Hartford, Conn.
Westinghouse Electric Corp., East Pittsburgh, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

GENERATORS — Acetylene: See ACETYLENE GENERATORS:

GENERATORS—Electric:

Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
Allis, Louis, Co., The, Milwaukee, Wis.
Century Electric Co., St. Louis 3, Mo.
Continental Electric Co., 335 Ferry St., Newark, N. J.
Coventry Climax Engines, Ltd., Newbold-on-Stour, near Stratford-on-Avon, England
Crocker-Wheeler Electric Mfg. Co., Ampere, N. J.
Electric Machinery Mfg. Co., Minneapolis, Minn.
Elliott Co., Jeannette, Pa.
Fairbanks, Morse Co., 600 S. Michigan Ave., Chicago, Ill.
Federal Telephone & Radio Corp., 67 Broad St., New York 4, N. Y.
General Electric Co., Schenectady, N. Y.
General Power, Inc., Quapaw, Okla.
Hobart Brothers Co., Troy, Ohio
Master Vibrator Co., Dayton, Ohio
Nelson Electric Mfg. Co., Tulsa, Okla.
Pioneer Gen-E-Motor Corp., 466 W. Superior, Chicago, Ill.
Sterling Machinery Corp., Kansas City, Mo.
Sturtevant, B. F., Co., Hyde Park, Boston, Mass.
Troy Engine & Machine Co., Troy, Pa.
Westinghouse Electric Corp., East Pittsburgh, Pa.
Winpower Mfg. Co., Newton, Iowa

GLASSWARE, Laboratory: See LABORATORY, Glassware:

GOVERNORS — See also CONTROLLERS and REGULATORS:

GOVERNORS—Engine:

Gardner-Denver Co., Quincy, Ill.
Pickering Governor Co., The, Portland, Conn.
Pierce Governor Co., The, Anderson, Ind.
Synchro-Start Products, Inc., 1046 W. Fullerton, Chicago 14, Ill.

GOVERNORS—Pump:

American Meter Co., 60 East 42nd St., New York City
Atlas Valve Co., 276 South St., Newark, N. J.
Cash, A. W., Co., Decatur, Ill.
Chaplin-Fulton Mfg. Co., 28-40 Penn Ave., Pittsburgh, Pa.
Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
D'Este Div., American Chain & Cable Co., Inc., Bridgeport, Conn.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., Newark, N. J.
Foster Pump Works, Inc., 50 Washington St., Brooklyn, N. Y.
Gardner-Denver Co., Quincy, Ill.
Grove Regulator Co., Oakland, Calif.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Illinois Engineering Co., 21st and Racine, Chicago, Ill.
Inferno Co., Shreveport, La.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Leslie Co., Lyndhurst, N. J.
McAear Mfg. Co., 1901 S. Western, Chicago, Ill.
McDonnell & Miller, Wrigley Bldg., Chicago, Ill.
Mason Neilan Regulator Co., 1190 Adams St., Boston, Mass.
Mueller Co., Decatur, Ill.
Natural Gas Equipment, Inc., 714 W. Olympic Blvd., Los Angeles, Calif.

GRAPHITE:

Dixon, Jos. A., Crucible Co., Jersey City, N. J.

GRATING—Steel:

Allied Steel Products Corp., Tulsa, Okla.
American Abrasive Metals Co., Irvington, N. J.
Arrowhead Iron Works, Inc., Kansas City, Mo.
Bates Co., Inc., Walter, Joliet, Ill.
Blaw-Knox Co., Blawnox, Pa.
Borden Metal Products Co., Elizabeth, N. J.
Dravo Corp., Pittsburgh, Pa.
Eaton Metal Products Co., 4800 York St., Denver 16, Colo.
Hendrick Mfg. Co., Carbondale, Pa.
Irving Subway Grating Co., Inc., 50-25 27th St., Long Island City, N. Y.
Kerlow Steel Flooring Co., Jersey City, N. J.
Klemp, Wm. F., Co., 6624 S. Melvina, Chicago, Ill.
Patterson Steel Co., Tulsa, Okla.
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.

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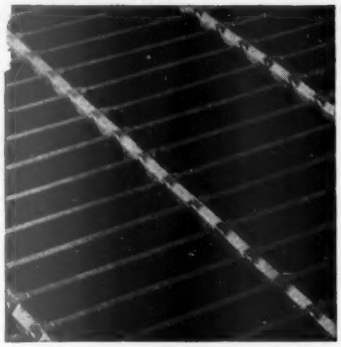

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Square Edge Bars — Your assurance of a slip-proof surface.

Hexagonal Cross Bars for neat appearance and better welds.

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Wheeling Corrugating Co., Wheeling W. Va.

GRAVITY RECORDERS—See RECORDERS, Gravity:

GREASE CUPS—See CUPS, Grease:

GREASE-MAKING EQUIPMENT:
Biggs Boiler Works, The, Akron, Ohio
Dallas Tank Co., Inc., Dallas, Tex.
Girdler Corp., Lexington, Ky.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Hendrick Mfg. Co., Carbondale, Pa.
Patterson Foundry & Machine Co., East Liverpool, Ohio
Standard Steel Corp., Los Angeles, Calif.
Stratford Engineering Corp., Kansas City, Mo.
Struthers-Wells, Warren, Pa.

GREASE KETTLES—See KETTLES, Grease:

HANGERS—Tube: See SUPPORTS, Tube:

HARD-FACING ALLOYS—See Alloys Hard-Facing:

HARD-SURFACING ALLOYS—See ALLOYS, Hard-Surfacing:

HATCHES—Gauge and Thief—See TANK GAUGE and THIEF HATCHES:

HEADERS—Oil Still:
Flori Pipe Co., 601 E. Red Bud, St. Louis, Mo.
Kellogg Co., The M. W., 225 Broadway, New York 7, N. Y.
Key Co., East St. Louis, Ill.
Sivyer Steel Casting Co., Milwaukee, Wis.
Thornhill-Craver Co., Houston, Tex.
Walworth Co., 60 E. 42nd St., New York City
Zallea Bros. & Johnson, 890 Locust St., Wilmington, Del.

HEADERS—Return:
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Flori Pipe Co., 601 E. Red Bud, St. Louis, Mo.
Hadfields, Ltd., East Hecla Works, Sheffield, England
Head, Wrightson & Co., Ltd., London S.W.I., England
Key Co., East St. Louis, Mo.
Ohio Steel Foundry Co., The, Springfield, Ohio
Sivyer Steel Casting Co., Milwaukee, Wis.
Sturtevant, B. F., Co., Hyde Park, Boston, Mass.
Thornhill-Craver Co., Houston, Tex.
Walworth Co., East 42nd St., New York

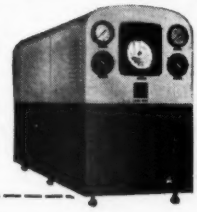
HEADS—Welding, Pipe: See FITTINGS, Welding:

HEAT EXCHANGERS:
American Locomotive Co., Alco Products Div., 30 Church St., New York City
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
American District Steam Co., North Tonawanda, N. Y.
Ampco Engineering & Construction Co., Dallas, Tex.
Ashmore, Benson, Pease & Co., Ltd., Stockton-on-Tees, England
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Beaird Corp., J. B., Shreveport, La.
Bethlehem Steel Co., Bethlehem, Pa.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Blaw-Knox Co., Blawnox, Pa.
Brown Fintube Co., The, Elyria, Ohio
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Combustion Equipment Co., Kansas City, Mo.

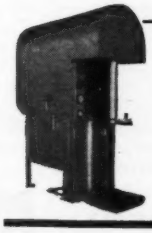
Votator A GIRDLER PRODUCT

CONTINUOUS, CLOSED
HEAT TRANSFER AND PROCESSING EQUIPMENT

Lubricating Grease Unit



Processes aluminum stearate and lithium stearate lubricating grease at high speed on a continuous basis. In seconds, the ingredients are safely heated, cooled and mixed in the closed unit. Complete mechanical control assures finished grease of uniform quality. Write for data.



Paraffin Wax Unit

Transforms hot oil to crystallized wax in containers, ready for shipment, without the usual holding period. Completely closed, automatic, it takes care of the heat transfer cycle in seconds on a continuous basis, multiplies volume in relation to floor space used, assures uniform quality. Write for data.

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Units fabricated to ASME Code, Paragraph U-68 or U-69, API-ASME Code, or other special Codes. Complete plate fabricating and machine shops; hydrostatic, air, and X-ray testing facilities. Regularly supplying many of the country's largest users of such equipment.

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Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Cook Electric Co., 2700 N. Southport Ave., Chicago 14, Ill.
Coy, Jos. A., Co., Inc., Tulsa, Okla.
Croll-Reynolds Engineering Co., 17 John St., New York City
Darby Corp., The, 1st & Walker, Kansas City, Kans.
Devine, J. P., Mfg. Co., Mount Vernon, Ill.
Downingtown Iron Works, E. Downingtown, Pa.
Drayer-Hanson, P.O. Box 2215, Terminal Annex, Los Angeles 54, Calif.
Duriron Co., The, Inc., Dayton, Ohio
Eaton Metal Products Co., 4800 York St., Denver 16, Colo.
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THOROUGHLY DESIGNED ENGINEERED FABRICATED

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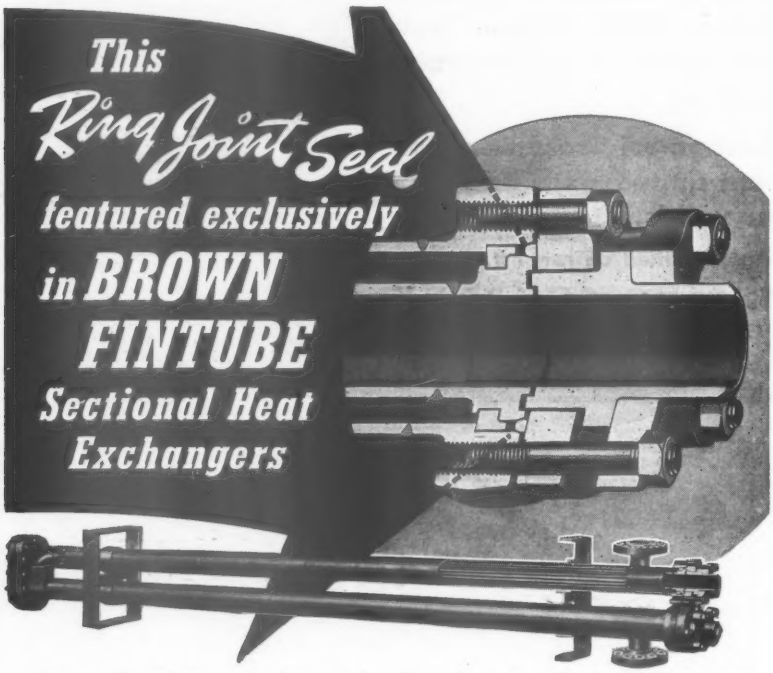

Brown Fintube's new, improved, type BFT-1 Sectional Hairpin Heat Exchangers give users:—

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3) Many design and structural features available only in Brown Fintube Sectional Exchangers,—including the flanged head end assembly, the ring joint seal, the non-removable rear end closure, etc.

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Let our engineers help you in adapting Brown Fintube Sectional Heat Exchangers to your exact and individual requirements.

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Foster Wheeler Corp., 165 Broadway, New York City
Frick Co., Waynesboro, Pa.
Gasoline Plant Construction Co., Houston, Tex.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graham Mfg. Co., 415 Lexington Ave., New York City 17
Graver Tank & Mfg. Co., 4809 Todd, East Chicago, Ind.
Griscom-Russell Co., The, 285 Madison Ave., New York City
Head, Wrightson & Co., Ltd., London S.W.I., England
Heat Transfer Products, Inc., Box 516, Carbondale, Pa.
Hendrick Mfg. Co., Carbondale, Pa.
Henzzey Co., Watertown, Wis.
Hudson Engineering Co., Houston, Tex.
Ingersoll-Rand Co., 11 Broadway, New York City 4
Kellogg Co., The M. W., 225 Broadway, New York City
Leach, C. H., Co., 117 Liberty St., New York City
Leader Iron Works, Inc., Decatur 60, Ill.
Lummus Co., 420 Lexington Ave., New York City 17
Manistee Iron Works, Manistee, Mich.
Marley Co., The, Kansas City, Kans.
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
National Radiator Co., Johnstown, Pa.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Ohio Steel Foundry Co., The, Springfield, Ohio
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Permutit Co., 330 W. 42nd St., New York City
Petroleum Iron Works Div., Pennsylvania Shipyards, Inc., Beaumont, Tex.
Pollock, William B., Youngstown, Ohio
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Pritchard, J. F., & Co., Kansas City, Mo.
Rempe Co., 340 N. Sacramento, Chicago 12, Ill.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia 22, Pa.
Southwestern Engineering Co., Los Angeles, Calif.
Southwest Welding & Mfg. Co., Alhambra, Calif.
Standard Steel Corp., 5001 S. Boyle Ave., Los Angeles 11, Calif.
Struthers-Wells, Warren, Pa.
Sun Shipbuilding & Dry Dock Co., Chester, Pa.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vogt, Henry, Machine Co., Louisville, Ky.
Vulcan Copper & Supply Co., The, 120 Sycamore, Cincinnati 2, Ohio
Vulcan Steel Tank Corp., Tulsa, Okla.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Western Supply Co., Tulsa, Okla.
Whitlock Mfg. Co., Hartford, Conn.
Wyatt Metal & Boiler Works, Houston, Tex.
Young Radiator Co., Racine, Wis.
Zallea Bros. & Johnson, 816 Locust St., Wilmington, Del.

HEATERS—Air:
Air Preheater Corp., 60 East 42nd St., New York City
American Blower Corp., 6000 Russell Ave., Detroit, Mich.
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Brown Fintube Co., The, Elyria, Ohio
Clarage Fan Co., Kalamazoo, Mich.
Combustion Engineering Co., Inc., 200 Madison Ave., New York City
Dravo Corp., Neville Island 25, Pittsburgh, Pa.
Foster Wheeler Corp., 165 Broadway, New York City
General Electric Co., Schenectady, N. Y.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Grinnell Co., Inc., 260 W. Exchange St., Providence 1, R. I.
Griscom-Russell Co., The, 285 Madison Ave., New York City
Head, Wrightson & Co., Ltd., London S.W.I., England
National Airoil Burner Co., 1284 E. Sedgley Ave., Philadelphia, Pa.
Oxley Engineering Co., Ltd., London, England
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Southwestern Engineering Co., Los Angeles, Calif.
Sturtevant, B. F., Co., Hyde Park, Boston, Mass.
Vogt, Henry, Machine Co., Louisville 10, Ky.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Whitlock Mfg. Co., The, Hartford, Conn.
Wing, L. J., Mfg. Co., 154 W. 14th St., New York 11, N. Y.
Young Radiator Co., Racine, Wis.
Zallea Bros. & Johnson, 890 Locust St., Wilmington, Del.

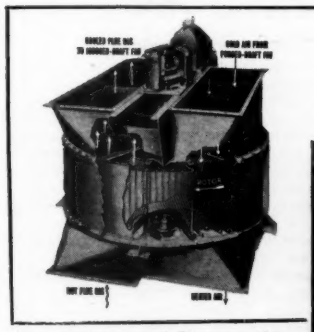
HEATERS—Feed Water:
American Locomotive Co., Alco Products Div., 30 Church St., New York City
Beaird Corp., J. B., Shreveport, La.
Biggs Boiler Works, The, Akron, Ohio
Brown Fintube Co., The, Elyria, Ohio
Cochrane Corp., 17th & Allegheny Ave., Philadelphia 32, Pa.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Coy Co., Jos. A., Inc., Tulsa, Okla.
Croll-Reynolds Engineering Co., 17 John St., New York City
Downingtown Iron Works, E. Downingtown, Pa.

Ljungstrom AIR PREHEATERS

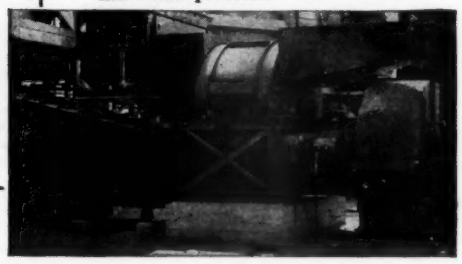
✔ for refinery power plants
✔ for oil heating furnaces
✔ for special applications requiring high-efficiency gas-to-air transfer

Heat is saved, combustion improved, and an opportunity opened to burn lower-grade fuels by the use of these *continuous regenerative counterflow* units. High-temperature models will handle gases up to 1700° F, heating combustion air to 1000° F or more.

Working closely with designers of power plants and refineries, our engineers will help apply standard or special types of air preheaters to your individual problem.



Above—Typical vertical Ljungstrom Preheater, showing directions of gas and air flow.



Right—Horizontal type preheater applied to oil refinery heater.

THE AIR PREHEATER CORPORATION
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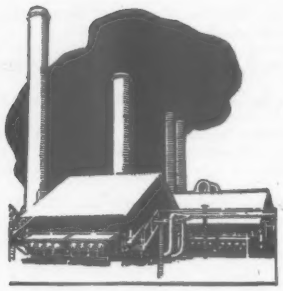

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combines skillful engineering, research and twenty-two years' experience to build efficient

HEATERS

- **Custom built heaters with capacity up to 100,000,000 b.t.u.**
- **Standard type heaters double or single end with capacity up to 40,000,000 b.t.u.**
- **Modernization of old heaters by rearranging heating surface and improving firing methods to increase capacity.**

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Graver Tank & Mfg. Co., 4809 Todd Ave., East Chicago, Ind.
Griscom-Russell Co., The, 285 Madison Ave., New York City 17
Heat Transfer Products, Inc., Box 516 Carbondale, Pa.
Natural Gas Equipment, Inc., Los Angeles 15, Calif.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Permutit Co., 330 W. 42nd St., New York City
Petro-Chem Development Co., Inc., 120 E. 41st St., New York City
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia 22, Pa.
Sims Co., The, Erie, Pa.
Southwestern Engineering Co., Los Angeles, Calif.
Standard Steel Corp., Los Angeles, Calif.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vogt, Henry, Machine Co., Louisville 10, Ky.
Weir, Ltd., G. & J., Glasgow, Scotland
Whitlock Mfg. Co., The, Hartford, Conn.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.
Zallea Bros. & Johnson, 816 Locust St., Wilmington, Del.

HEATERS—Oil:
American District Steam Co., North Tonawanda, N. Y.
American Locomotive Co., Alco Products Div., 30 Church St., New York City
American Steel Works, 27th & Southwest Blvd., Kansas City 8, Mo.
Alcorn Combustion Co., 15th and Race Sts., Philadelphia, Pa.
Ampco Engineering & Construction Co., Dallas, Tex.
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Badger, E. B., & Sons Co., Boston, Mass.
Beaird Corp., J. B., Shreveport, La.
Bethlehem Steel Co., Bethlehem, Pa.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Born Engineering Co., Tulsa, Okla.
Brown Fintube Co., The, Elyria, Ohio
Burt Tank, Separator & Oil Treating Corp., Wichita Falls, Tex.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Dravo Corp., Neville Island 25, Pittsburgh, Pa.
Engineers & Fabricators, Inc., Houston, Tex.
Foster Wheeler Corp., 165 Broadway, New York City
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Griscom-Russell Co., The, 285 Madison Ave., New York City
Head, Wrightson & Co., Ltd., London S.W.I., England
Lummus Co., 420 Lexington Ave., New York City 17
National Airoil Burner Co., 1236 E. Sedgley Ave., Philadelphia, Pa.
National Radiator Co., The, Johnstown, Pa.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Peabody Engineering Corp., 580 Fifth Ave., New York 19, N. Y.
Petro-Chem Development Co., Inc., 120 East 41st St., New York City
Rempe Co., 340 N. Sacramento, Chicago 12, Ill.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Southwestern Engineering Co., Los Angeles, Calif.
Standard Steel Corp., Los Angeles, Calif.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vogt, Henry, Machine Co., Louisville, Ky.
Whitlock Mfg. Co., The, Hartford, Conn.
Winkler-Koch Engineering Co., Wichita, Kans.
Young Radiator Co., Racine, Wis.
Zallea Bros. & Johnson, 816 Locust St., Wilmington, Del.

HEATERS—Steam Jet:
Elliott Co., Jeannette, Pa.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Maintenance Engineering Corp., 3611 Clinton Dr., Houston, Tex.
Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia 22, Pa.

HEATERS—Storage Tank:
American District Steam Co., North Tonawanda, N. Y.
Beaird Corp., J. B., Shreveport, La.
Biggs Boiler Works, The, Akron, Ohio
Brown Fintube Co., The, Elyria, Ohio
Devine, J. P., Mfg. Co., Mount Vernon, Ill.
Downingtown Iron Works, E. Downingtown, Pa.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Graver Tank & Mfg. Co., Inc., 4809 Todd Ave., East Chicago, Ind.
Griscom-Russell Co., The, 285 Madison Ave., New York City
Kewanee Boiler Corp., Kewanee, Ill.
National Airoil Burner Co., 1236 E. Sedgley Ave., Philadelphia, Pa.
Oxley Engineering Co., Ltd., London, England
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Ross Heater & Mfg. Co., Inc., Buffalo, N. Y.
Sims Co., The, Erie, Pa.
Southwestern Engineering Co., Los Angeles, Calif.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vogt, Henry, Machine Co., Louisville 10, Ky.
Whitlock Mfg. Co., The, Hartford, Conn.

HELMETS—Welding: See SHIELDS, Welding:

HOISTING BLOCKS—See BLOCKS, Hoisting:

HOISTS—Air Motor:
Chicago Pneumatic Tool Co., 6 E. 44th St., New York City
Curtis Mfg. Co., 1905 Kienlen Ave., St. Louis 20, Mo.
Gardner-Denver Co., Quincy, Ill.
Ingersoll-Rand Co., 11 Broadway, New York City 4
Joyce-Cridland Co., The, Dayton, Ohio
Sullivan Machinery Co., Michigan City, Ind.

HOISTS—Chain:
Coffing Hoist Co., Danville, Ill.
Ford Chain Block Division of the American Chain & Cable Co., Inc., 2nd and Diamond Sts., Philadelphia, Pa.
Sterling Machinery Corp., Kansas City, Mo.
Wright Manufacturing Div. of the American Chain & Cable Co., Inc., York, Pa.
Yale & Towne Mfg. Co., Frankfort, Philadelphia, Pa.

HOISTS—Electric:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Chicago Pneumatic Tool Co., 6 E. 44th St., New York 17, N. Y.
Coffing Hoist Co., Danville, Ill.
Economy Engineering Co., 2675 W. Van Buren St., Chicago, Ill.
Ford Chain Block Div., American Chain & Cable Co., Inc., Philadelphia, Pa.
Harnischfeger Corp., Milwaukee, Wis.
Ottuma Iron Works, Ottuma, Iowa
Philadelphia Gear Works, "G" St. and Erie Ave., Philadelphia, Pa.
Stearns-Roger Mfg. Co., Denver 2, Colo.
Whiting Corp., Harvey, Ill.
Wright Manufacturing Div. of American Chain & Cable Co., York, Pa.
Yale & Towne Mfg. Co., Philadelphia, Pa.

HOLDERS—Gas: See GAS HOLDERS:

HOOKS—Hoisting:
American Chain Div. of the American Chain & Cable Co., Inc., York, Pa.
American Chain Ladder Co., 151 E. 50th St., New York 22, N. Y.
Bethlehem Steel Co., Bethlehem, Pa.
Billings & Spencer Co., 1 Laurel St., Hartford 6, Conn.
Boyer-Campbell Co., 6540 Antoine St., Detrot 2, Mich.
Laughlin, Thomas Co., Portland, Me.

HOSE—Air:
Aeroquip Corp., Jackson, Mich.
American Brass Co., 25 Broadway, New York City
Carlyle Rubber Co., 64 Park Place, New York City
Chicago Metal Hose Corp., Maywood, Ill.
Chicago Pneumatic Tool Co., 6 E. 44th St., New York City
Cincinnati Rubber Mfg. Co., The, Norwood Sta., Cincinnati, Ohio
DeVilbiss Co., The, 300 Phillips Ave., Toledo 1, Ohio
Elliott Co., Roto Div., Newark, N. J.
Gates Rubber Co., The, 999 S. Broadway, Denver 17, Colo.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Gustin-Bacon Mfg., Co., Kansas City, Mo
Hewitt Rubber Corp., Buffalo, N. Y.
Ingersoll-Rand Co., 11 Broadway, New York City 4

Manhattan Rubber Mfg. Div., The, of Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., 1 Market St., Passaic, N. J.
Quaker Rubber Corp., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.
Republic Rubber Div., Lee Rubber & Tire Corp., Youngstown, Ohio
Schramm, Inc., West Chester, Pa.
Sullivan Machinery Co., Michigan City, Ind.
Thermoid Co., Trenton, N. J.
U. S. Rubber Co., 1230 6th Ave., New York City
Westinghouse Air Brake Co., Wilmerding, Pa.

HOSE—Chemical:

American Brass Co., 25 Broadway, New York City
Carlyle Rubber Co., 64 Park Place, New York City
Chicago Metal Hose Corp., Maywood, Ill.
Cincinnati Rubber Mfg. Co., The, Norwood Sta., Cincinnati, Ohio
Gates Rubber Co., The, 999 S. Broadway, Denver 17, Colo.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Hewitt Rubber Corp., Buffalo, N. Y.
Manhattan Rubber Mfg. Div., The, of Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., 1 Market St., Passaic, N. J.
Quaker Rubber Corp., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.
Republic Rubber Div., Lee Rubber & Tire Co., Youngstown, Ohio
Thermoid Co., Trenton, N. J.
U. S. Rubber Co., 1230 6th Ave., New York City
Wilkinson Rubber Linatex Limited, Camberley (Surrey), England

HOSE—Flexible Metal:

American Brass Co., Waterbury 88, Conn.
American Steel Works, 27th & Southwest Blvd., Kansas City 8, Mo.
Atlantic Metal Hose Co., 123 W. 64th St., New York City
Chicago Metal Hose Corp., Maywood, Ill.
Chiksan Tool Co., Brea, Calif.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Hewitt Rubber Corp., Buffalo, N. Y.
Seamlex Co., Inc., 5-19 48th Ave., Long Island City, N. Y.
Zallea Bros. & Johnson, 816 Locust St., Wilmington, Del.

HOSE—Gasoline:

American Steel Works, 27th & Southwest Blvd., Kansas City 8, Mo.
Carlyle Rubber Co., 64 Park Place, New York City
Chicago Metal Hose Corp., Maywood, Ill.
Chiksan Co., Brea, Calif.
Cincinnati Rubber Mfg. Co., The, Norwood Sta., Cincinnati, Ohio
Gates Rubber Co., The, 999 S. Broadway, Denver 17, Colo.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Hewitt Rubber Corp., Buffalo, N. Y.
McDonald, A. Y., Mfg. Co., Dubuque, Iowa
Manhattan Rubber Mfg. Div., The, of Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., 1 Market St., Passaic, N. J.
Pennsylvania Flexible Metallic Tubing Co., 72nd and Powers Lane, Philadelphia, Pa.
Quaker Rubber Corp., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.
Republic Rubber Div., Lee Rubber & Tire Corp., Youngstown, Ohio
Thermoid Co., Trenton, N. J.
U. S. Rubber Co., 1230 6th Ave., New York City
Weatherhead Co., Cleveland, Ohio
Wilkinson Rubber Linatex, Limited, Camberley (Surrey), England

HOSE—Oil:

Aeroquip Corp., Jackson, Mich.
American Brass Co., 25 Broadway, New York City
American Steel Works, 27th & Southwest Blvd., Kansas City 8, Mo.
Carlyle Rubber Co., 64 Park Place, New York City
Chicago Metal Hose Corp., Maywood, Ill.
Cincinnati Rubber Mfg. Co., The, Norwood Sta., Cincinnati, Ohio
DeVilbiss Co., The, 300 Phillips Ave., Toledo, Ohio
Gates Rubber Co., The, 999 S. Broadway, Denver 17, Colo.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Hewitt Rubber Corp., Buffalo, N. Y.
McDonald, A. Y., Mfg. Co., Dubuque, Iowa
Manhattan Rubber Mfg. Div., The, of Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., 1 Market St., Passaic, N. J.
National Airoil Burner Co., 1236 E. Sedgley Ave., Philadelphia, Pa.
N. Y. Rubber Corp., 9 Rockefeller Plaza, New York City
Quaker Rubber Corp., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.
Republic Rubber Div., Lee Rubber & Tire Corp., Youngstown, Ohio
Resistoflex Corp., Belleville, N. J.
Thermoid Co., Trenton, N. J.
U. S. Rubber Co., 1230 6th Ave., New York City
Weatherhead Co., Cleveland, Ohio
Wilkinson Rubber Linatex, Limited, Camberley (Surrey), England

HOSE—Steam, Metal:

American Brass Co., 25 Broadway, New York City
Chicago Metal Hose Corp., Maywood, Ill.
Chiksan Co., Brea, Calif.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodyear Tire & Rubber Co., Akron, Ohio
Gustin-Bacon Mfg. Co., Kansas City, Mo.
National Airoil Burner Co., 1284 E. Sedgley Ave., Philadelphia, Pa.
Pennsylvania Flexible Metallic Tubing Co., 72nd and Powers Lane, Philadelphia, Pa.
Quaker Rubber Corp., Philadelphia, Pa.
Seamlex Co., Inc., 5-19 48th Ave., Long Island City, N. Y.

HOSE—Steam, Rubber:

Elliott Co., Roto Div., Newark 1, N. J.
Gates Rubber Co., The, 999 S. Broadway, Denver 17, Colo.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Hewitt Rubber Corp., Buffalo, N. Y.
Manhattan Rubber Mfg. Div., The, of Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., 1 Market St., Passaic, N. J.
N. Y. Rubber Corp., 9 Rockefeller Plaza, New York City
Quaker Rubber Corp., Philadelphia, Pa.
Republic Rubber Div., Lee Rubber & Tire Corp., Youngstown, Ohio
Thermoid Co., Trenton, N. J.
U. S. Rubber Co., 1230 6th Ave., New York City

HOSE—Tar and Asphalt:

American Brass Co., 25 Broadway, New York City
American Steel Works, 27th & Southwest Blvd., Kansas City 8, Mo.
Chicago Metal Hose Corp., Maywood, Ill.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodyear Tire & Rubber Co., Akron, Ohio
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Manhattan Rubber Division, Passaic, N. J.
Quaker Rubber Co., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.
Republic Rubber Co., The, Youngstown, Ohio
Thermoid Co., Trenton, N. J.
Wilkinson Rubber Linatex, Limited, Camberley (Surrey), England

HOSE—Water:

Aeroquip Corp., Jackson, Mich.
American Brass Co., 25 Broadway, New York City
Cincinnati Rubber Mfg. Co., The, Norwood Sta., Cincinnati, Ohio
DeVilbiss Co., The, 300 Phillips Ave., Toledo 1, Ohio
Elliott Co., Roto Div., Newark 1, N. J.
Gates Rubber Co., The, 999 S. Broadway, Denver 17, Colo.
General Detroit Corp., The, Detroit 7, Mich.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Hewitt Rubber Corp., Buffalo, N. Y.
Manhattan Rubber Mfg. Div., The, of Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., 1 Market St., Passaic, N. J.
N. Y. Rubber Corp., 9 Rockefeller Plaza, New York City
Quaker Rubber Corp., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.
Republic Rubber Div., Lee Rubber & Tire Corp., Youngstown, Ohio
Sterling Packing & Gasket Co., Houston, Tex.
Thermoid Co., Trenton, N. J.
U. S. Rubber Co., 1230 6th Ave., New York City
Weatherhead Co., Cleveland, Ohio

HOSE COUPLINGS:

Aeroquip Corp., Jackson, Mich.
American Brass Co., 25 Broadway, New York City
Carlyle Rubber Co., 64 Park Place, New York City
Chase Brass & Copper Co., Waterbury, Conn.
Chicago Metal Hose Corp., Maywood, Ill.
Chicago Pneumatic Tool Co., 6 E. 44th St., New York City
DeVilbiss Co., The, 300 Phillips Ave., Toledo 1, Ohio
Elliott Co., Roto Div., Newark 1, N. J.
Falk Corp., The, Milwaukee 8, Wis.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Ingersoll-Rand Co., 11 Broadway, New York City
Manhattan Rubber Mfg. Div., The, of Raybestos-Manhattan, Inc., Passaic, N. J.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Republic Rubber Co., The, Youngstown, Ohio
Resistoflex Corp., Belleville, N. J.
Scovill Mfg. Co., Waterbury, Conn.
Sullivan Machinery Co., Michigan City, Ind.
Thermoid Co., Trenton, N. J.
U. S. Rubber Co., 1230 6th Ave., New York City
Weatherhead Co., Cleveland, Ohio

HOUSES—Bath:

Columbian Steel Tank Co., Kansas City, Mo.
General Housing Co., 2121 N. Beckley, Dallas 8, Tex.
Southern Mill & Mfg. Co., Tulsa, Okla.
Wyatt Metal & Boiler Works, Houston, Tex.

HOUSES—Meter:
Allied Steel Products Corp., Tulsa, Okla.
Braden Steel Corp., Tulsa, Okla.
Butler Mfg. Co., Kansas City, Mo.
Columbian Steel Tank Co., Kansas City, Mo.
Watkins, Inc., Wichita, Kans.

HOUSES — Sectional, Wood — See BUILDINGS, Sectional, Wood:

HOUSES—Tool, Steel:
Allied Steel Products Corp., Tulsa, Okla.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla
Braden Steel Corp., Tulsa, Okla.
Brinkman, Inc., 1705 Ruiz, Houston, Tex.
Butler Mfg. Co., Kansas City, Mo.
Columbian Steel Tank Co., Kansas City, Mo.
General Housing Co., 2121 N. Beckley, Dallas 8, Tex.
M & V Tank Co., Wichita Falls, Tex.
Mosher Steel Co., Houston, Tex.
Petroleum Iron Works Div., Pennsylvania Shipyards, Inc., Beaumont, Tex.
Standard Steel Corp., Los Angeles, Calif.
Truscon Steel Co., Youngstown, Ohio
Watkins, Inc., Wichita, Kans.
Wyatt Metal & Boiler Works, Houston, Tex.

HUMIDIFIERS:
Armstrong Machine Works, Three Rivers, Mich.
Carrier, Corp., Syracuse, N. Y.
Pritchard, J. F., & Co., Kansas City, Mo.
York Corp., York, Pa.

HYDRANTS—Fire:
Darling Valve & Mfg. Co., Williamsport, Pa.
Kennedy Valve Mfg. Co., The, Elmira, N. Y.
M & H Valve & Fittings Co., Anniston, Ala.

HYDRAULIC DECOKING EQUIPMENT—See DECOKING EQUIPMENT, Hydraulic:

HYDROGEN SULFIDE DETECTORS — See DETECTORS, Hydrogen Sulfide:

HYDROGEN SULFIDE REMOVAL — See PROCESSES, Gas Purification:

HYDROMETERS:
Greiner, Emil, Co., 55 Van Dam St., New York City
H.-B. Instrument Co., Inc., N. Broad St., Philadelphia, Pa.
Kimble Glass Co., Vineland, N. J.
Nurnberg Thermometer Co., 397 Bridge St., Brooklyn, N. Y.
Tagliabue, C. J., Mfg. Co., Park Ave. and Nostrand Ave., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trerice, H. O., Co., Detroit, Mich.

HYGROMETERS:
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., Wayne Ave., Philadelphia 44, Pa.
Cambridge Instrument Co., Inc., 3722 Grand Central Terminal, New York City
Foxboro Co., Foxboro, Mass.
Harshaw Chemical Co., The, Cleveland 6, Ohio
Kimble Glass Co., Vineland, N. J.
Nurnberg Thermometer Co., 397 Bridge St., Brooklyn, N. Y.
Palmer Co., The, Cincinnati 12, Ohio
Tagliabue, C. J., Mfg. Co., Park Ave. and Nostrand Ave., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trerice, H. O., Co., Detroit, Mich.

IDLERS—Belt:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Dodge Mfg. Co., Mishawaka, Ind.
Happy Co., The, Tulsa, Okla.
Jeffrey Mfg. Co., The, Columbus, Ohio
Link-Belt Co., 220 S. Belmont Ave., Indianapolis 6, Ind.
Medart Co., 3535 De Kalb St., St. Louis, Mo.

INDICATORS — Combustible Gas — See ALARMS, Combustible Gas:

INDICATORS—Draft—See GAUGES, Draft:

INDICATORS—Flow—See METERS, Flow:

INDICATORS, Liquid-Level—See GAUGES, Liquid-Level:

INDICATORS—Temperature—See GAUGES:

INHALATORS:
Davis Emergency Equipment Co., Inc., 66 Halleck St., Newark, N. J.
McDonald, B. F., Co., 5112 S. Hoover, Los Angeles 37, Cal.
Mine Safety Appliances Co., Pittsburgh, Pa.

INHIBITORS:
American Chemical Paint Co., Ambler, Pa.
American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, New York City
American Lecithin Co., Inc., Elmhurst, Long Island, N. Y.
Du Pont de Nemours, E. I., & Co., Wilmington, Del.
Elgin Softener Corp., Elgin, Ill.
D. W. Haering Co., Chicago, Ill.
Horn, A. C., Houston, Tex.
Patent Chemicals, Inc., 335 Boulevard, Paterson 3, N. J.
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Reilly Tar & Chemical Co., Indianapolis, Ind.
Turco Products, Inc., Los Angeles, Calif.
Universal Oil Products Co., 316 S. Michigan Ave., Chicago, Ill.

INJECTORS:
Goslin Birmingham Mfg., Co., Inc., Birmingham, Ala.
Nathan Mfg. Co., 416 E. 106th St., New York City.
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia 22, Pa.

INK-RECORDING INSTRUMENT:
American Recording Chart Co., Los Angeles, Calif.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., Phila., Pa.
Neumann Bros., Inc., 150 Lafayette St., N. Y. C.

INSPECTORS—Petroleum:
Martin & Co., Chas., Houston, Tex.

CHAS. MARTIN & COMPANY
Inspectors of Petroleum
Approved and Licensed by New York Produce Exchange
GAUGING • SAMPLING AND TESTING
TANK STRAPPING
BARGE CALIBRATION • CRUDE EVALUATION
GAS ANALYSIS
1215 Dumble Street, Houston, Texas
Laboratories located at:
Houston, Texas — New Orleans, La.
Corpus Christi, Texas — Elizabeth, New Jersey
New York Office: Produce Exchange Annex
Branch offices at all oil ports

Saybolt, E. W., & Co., Houston, Tex.

INSTRUMENTS — Oil Testing — See OIL-TESTING INSTRUMENTS:

INSTRUMENTS—See Specific Types:

INSTRUMENT-REPAIR SERVICE:
Bausch & Lomb Optical Co., Rochester, N. Y.
Braun Corp., 2260 E. 15th St., Los Angeles 21, Calif.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., Wayne Ave., Philadelphia 44, Pa.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Foxboro Co., Foxboro, Mass.
Inferno Co., The, Shreveport, La.
Instruments, Inc., Dallas, Tex.
Mansfield & Green, 4601 Euclid Ave., Cleveland 3, Ohio.
Maintenance Engineering Corp., 3611 Clinton Dr., Houston, Tex.
Marsh, Jas. P., Corp., 2073 Southport, Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Refinery Supply Co., Tulsa, Okla.
Weston Electrical Instrument Corp., Newark, N. J.

INSULATING CEMENT—See CEMENT, Insulating:

INSULATING MATERIALS — See Specific Headings:

INSULATION—Asbestos:
Armstrong Cork Co., Lancaster, Pa.
Asbestos & Engineering Products, Ltd., London, England
Baldwin-Hill Co., Trenton, N. J.
Bird-Archer Co., The, 400 Madison Ave., New York, N. Y.
British Belting & Asbestos, Ltd., Cleckheaton, Yorkshire, England
Calapor Mfg. Co., Houston, Tex.
Carey, Philip, Mfg. Co., The, Cincinnati, Ohio
Eagle-Picher Sales Co., Cincinnati, Ohio
Farnam Co., F. D., 4940 Flournoy St., Chicago 44, Ill.
Forty Eight Insulations, Inc., North Aurora, Ill.
Gatke Corp., 228 N. La Salle St., Chicago, Ill.
Hamner, Leland, Co., Houston, Tex.
Johns-Manville Corp., 22 E. 40th St., New York City
Keasbey & Mattison Co., Ambler, Pa.
Kellogg, M. W., Co., 225 Broadway, New York City.
Manhattan Rubber Mfg. Div., The, of Raybestos-Manhattan, Inc., Passaic, N. J.
Plant Rubber & Asbestos Works, 537 Brannan St., San Francisco 7, Calif.
Plibrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.
Raybestos-Manhattan, Inc., Passaic, N. J.
Ric-Wil Co., Union Commerce Bldg., Cleveland 14, Ohio.
Ruberoid Co., 500 5th Ave., New York City.
Schundler, F. E., Co., Joliet, Ill.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Stephens Asbestos Products Co., Tulsa, Okla.
Sullivan Co., The, Memphis, Tenn.
U. S. Asbestos Div., Manheim, Pa.
Union Asbestos & Rubber Co., Cicero, Ill.
Universal Insulation Co., 2429 South St., Philadelphia, Pa.
Vermiculite Products Co., Houston, Tex.

INSULATION—Boiler:
Armstrong Cork Co., Lancaster, Pa.
Asbestos & Engineering Products, Ltd., London, England
Baldwin-Hill Co., Trenton, N. J.
Bigelow-Liptak Corp., 2842 W. Grand Blvd., Detroit 2, Mich.
Carey, Philip, Mfg. Co., The, Cincinnati, Ohio
Consolidated Expanded Metal Co., Wheeling, W. Va.
Detrick, M. H., Co., 111 W. Washington St., Chicago 2, Ill.
Eagle-Picher Sales Co., The, Cincinnati, Ohio
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Farnam Co., F. D., 4940 W. Flournoy St., Chicago 44, Ill.
Forty Eight Insulations, Inc., North Aurora, Ill.

Green, A. P., Fire Brick Co., 1801 Railway Exch. Bldg., St. Louis, Mo.
Hamner, Leland, Co., Houston, Tex.
Johns-Manville Corp., 22 E. 40th St., New York City
Keasbey & Mattison Co., Amber, Pa.
Kellogg, M. W., Co., 225 Broadway, New York City
Lucey Boiler & Mfg. Co., Chattanooga, Tenn.
Mexico Refractories Co., Mexico, Mo.
Owens-Corning Fiberglas Corp., Toledo, Ohio
Plant Rubber & Asbestos Works, 537 Brannan St., San Francisco 7, Calif.
Ruberoid Co., 500 5th Ave., New York City 18, N. Y.
Schundler, F. E., Co., Joliet, Ill.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Union Asbestos & Rubber Co., Cicero, Ill.
Universal Zenolite Insulation Co., 135 S. La Salle, Chicago, Ill.
Vermiculite Products Co., Houston, Tex.

INSULATION—Cork:
Armstrong Cork Co., Lancaster, Pa.
Carey, Philip, Mfg. Co., The, Cincinnati, Ohio
Cork Insulation Co., Inc., 155 E. 44th St., New York City.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Farnam Co., F. D., 4940 W. Flournoy St., Chicago 44, Ill.
Stephens Asbestos Products Co., Tulsa, Okla.
Vermiculite Products Co., Houston, Tex.

INSULATION—Fabricated Metals:
Aluminum Co. of America, 21st Floor Gulf Bldg., Pittsburgh, Pa.
Carey, Philip, Mfg. Co., The, Cincinnati, Ohio
Eagle-Picher Sales Co., The, Cincinnati, Ohio
Johns-Manville Corp., 22 E. 40th, New York City
Reynolds Metals Co., 2500 S. 3rd St., Louisville 1, Ky.
Schundler, F. E., Co., Joliet, Ill.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Stephens Asbestos Products Co., Tulsa, Okla.
Vermiculite Products Co., Houston, Tex.

INSULATION—Low-Temperature:
American Hair & Felt Co., Merchandise Mart, Chicago 54, Ill.
Armstrong Cork Co., Lancaster, Pa.
Baldwin-Hill Co., Trenton, N. J.
Bigelow-Liptak Corp., 2842 W. Grand Blvd., Detroit 2, Mich.
Carey, Philip, Mfg. Co., The, Cincinnati, Ohio
Eagle-Picher Sales Co., The, Cincinnati, Ohio
Farnam Co., F. D., 4940 W. Flournoy St., Chicago 44, Ill.
Forty Eight Insulations, Inc., North Aurora, Ill.
Johns-Manville Corp., 22 E. 40th St., New York City
Keasbey & Mattison Co., Amber, Pa.
Kellogg Co., The M. W., 225 Broadway, New York City
Laclede Christy Clay Products Co., St. Louis, Mo.
Mundet Cork Corp., Brooklyn, N. Y.
Owens-Corning Fiberglas Corp., Toledo, Ohio
Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Plant Rubber & Asbestos Works, 537 Brannan St., San Francisco 7, Calif.
Ruberoid Co., 500 5th Ave., New York City
Schundler, F. E., Co., Joliet, Ill.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sullivan Co., The, Memphis, Tenn.
Union Asbestos & Rubber Co., Cicero, Ill.
Vermiculite Products Co., Houston, Tex.

INSULATION—Rock Wool:
Allied Chemical & Dye Corp., The, Barrett Div., New York 6, N. Y.
Baldwin-Hill Co., Trenton, N. J.
Carey, Philip, Mfg. Co., The, Cincinnati, Ohio
Chicago Firebrick Co., 1461 Elston Ave., Chicago 22, Ill.
Eagle-Picher Sales Co., The, Cincinnati, Ohio
Farnam Co., F. D., 4940 W. Flournoy St., Chicago 44, Ill.
Forty Eight Insulations, Inc., North Aurora, Ill.
Johns-Manville Corp., 22 E. 40th St., New York City
Keasbey & Mattison Co., Ambler, Pa.
Kellogg, M. W., Co., 225 Broadway, New York City 7, N. Y.
Owens-Corning Fiberglas Corp., Toledo 1, Ohio
Plant Rubber & Asbestos Works, 537 Brannan St., San Francisco 7, Calif.
Plibrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.
Ric-Wil Co., Union Commerce Bldg., Cleveland 14, Ohio
Ruberoid Co., 500 5th Ave., New York City 18, N. Y.
Schundler, F. E., Co., Joliet, Ill.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Stephens Asbestos Products Co., Tulsa, Okla.
Universal Insulation Co., 2429 South St., Philadelphia, Pa.

INSULATION—Tanks:
American Hair & Felt Co., Merchandise Mart, Chicago 54, Ill.
Asbestos & Engineering Products, Ltd., London, England
Armstrong Cork Co., Lancaster, Pa.
Baldwin-Hill Co., Trenton, N. J.
Eagle-Picher Sales Co., The, Cincinnati, Ohio
Farnam Co., F. D., 4940 Flournoy St., Chicago 44, Ill.
Forty Eight Insulations, Inc., North Aurora, Ill.
Johns-Manville Corp., 22 E. 40th St., New York City
Owens-Corning Fiberglas Corp., Toledo, Ohio
Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Plant Rubber & Asbestos Works, 537 Brannan St., San Francisco 7, Calif.
Reynolds Metals Co., 2500 S. 3rd St., Louisville 1, Ky.
Schundler, F. E., Co., Joliet, Ill.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Stephens Asbestos Products Co., Tulsa, Okla.
Sullivan Co., The, Memphis, Tenn.
Tank Seal Products Co., Tulsa, Okla.
Union Asbestos & Rubber Co., Cicero, Ill.
Universal Insulation Co., 2429 South St., Philadelphia, Pa.
Universal Zonolite Insulation Co., 135 S. La Salle, Chicago, Ill.
Vermiculite Products Co., Houston, Tex.

INTERCHANGERS—Heat—See HEAT EXCHANGERS:

ISOMERIZATION, Catalytic—See PROCESSES, Refining:

JACKS—Lifting:
Buda Co., Harvey, Ill.
Duff Norton Mfg. Co., Pittsburgh 30, Pa.
Templeton Kenley & Co., Chicago, Ill.

JETS—Ejector-Type:
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Croll-Reynolds Engineering Co., 17 John St., Chicago, Ill.
Elliott Co., Jeannette, Pa.
Ingersoll-Rand Co., 11 Broadway, New York City 4, N. Y.
Lummus Co., The, 420 Lexington Ave., New York 17, N. Y.
Nathan Mfg. Co., 416 E. 106th St., New York City

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Croll-Reynolds Engineering Co., 17 John St., Chicago, Ill.
Elliott Co., Jeannette, Pa.
Foster Wheeler Corp., 165 Broadway, New York City
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Haveg Corp., Newark, Del.
Ingersoll-Rand Co., 11 Broadway, New York City 4, N. Y.
Jarecki Mfg. Co., St. Louis, Mo.
Lummus Co., The, 420 Lexington Ave., New York 17, N. Y.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia, Pa.
Westinghouse Electric Corp., Pittsburgh 30, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.
Youngstown Welding & Engineering Co., Youngstown, Ohio

JOINTS—Expansion:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American District Steam Co., North Tonawanda, N. Y.
Armstrong Cork Co., Lancaster, Pa.
Badger, E. B., & Sons Co., 75 Pitts St., Expansion Joint Div., Boston, Mass.
Belfield Co., H., Philadelphia, Pa.
Carey, Philip, Mfg. Co., The, Cincinnati, Ohio
Chase Brass & Copper Co., Waterbury, Conn.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Croll-Reynolds Engineering Co., 17 John St., Chicago, Ill.

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Goodall Rubber Co., Philadelphia, Pa.
Griscom-Russell Co., The, 285 Madison Ave., New York City
Jarecki Mfg. Co., St. Louis, Mo.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Petroleum Iron Works Div., Pennsylvania Shipyards, Inc., Beaumont, Tex.
Pollack, William B., Co., Youngstown, Ohio
Powell, Wm., Co., The, Cincinnati 22, Ohio
Ric-Wil Co., Union Commerce Bldg., Cleveland 14, Ohio
Southwest Welding & Mfg. Co., Alhambra, Calif.
Stearns-Roger Manufacturing Co., Denver, Colo.
U. S. Rubber Co., 1230 Sixth Ave., New York City
Walworth Co., 60 E. 42nd St., New York City
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Yarnall-Waring Co., Chestnut Hill, Philadelphia 18, Pa.
Zallea Bros. & Johnson, 816 Locust St., Wilmington, Del.

JOINTS—Flexible Ball:
Cast Iron Pipe Research Assn., 122 S. Michigan, Chicago, Ill.
Chiksan Co., Brea, Calif.
Flexo Supply Co., Inc., 4221 Olive St., St. Louis 8, Mo.
Morrison Brothers, Dubuque, Iowa
Oil Equipment Mfg. Co., Louisville, Ky.
Spicer Manufacturing Co., Toledo, Ohio
Thornhill-Craver Co., Houston, Tex.
Well Equipment Mfg. Co., Box 2593, Houston, Tex.

JOINTS—Swing:
Barco Mfg. Co., 1801 Winnemac Ave., Chicago 40, Ill.
Belfield Co., H., Philadelphia, Pa.
Chiksan Co., Brea, Calif.
Jarecki Mfg. Co., St. Louis, Mo.
Maloney Tank Mfg. Co., Tulsa, Okla.
McDonald, A. Y., Mfg. Co., Dubuque, Iowa
Powell, Wm., Co., The, Cincinnati 22, Ohio
Shand & Jurs Co., Berkeley, Calif.
Staytite Co., The, Houston, Tex.
Vapor Recovery Systems Co., The, Compton, Calif.
Walworth Co., 60 E. 42nd St., New York City
Well Equipment Mfg. Co., Box 2593, Houston, Tex.

JOINTS—Swivel:
Chiksan Co., Brea, Calif.
Flexo Supply Co., Inc., 4221 Olive St., St. Louis 8, Mo.
McDonald, A. Y., Mfg. Co., Dubuque, Iowa
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Powell, Wm., Co., The, Cincinnati 22, Ohio
Well Equipment Mfg. Co., Box 2593, Houston, Tex.

JOURNAL BOXES:
Chain Belt Co., 1600 W. Bruce St., Milwaukee 4, Wis.

KETTLES—Compounding:
Aluminum Co. of America, 21st Floor Gulf Bldg., Pittsburgh, Pa.
American Steel Works, Kansas City, Mo.
Biggs Boiler Works, The, Akron, Ohio
Birmingham Tank Co., Birmingham, Ala.
Consolidated Steel Corp., Box 6880, E. Los Angeles, Calif.
Farrar & Trefts, Inc., Buffalo, N. Y.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Hendrick Mfg. Co., Carbondale, Pa.
Leader Iron Works, Decatur 60, Ill.
Lukens Steel Co., Coatesville, Pa.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson Foundry & Machine Co., The East Liverpool, Ohio
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Porter, H. K., Co., Inc., Pittsburgh, Pa.
Standard Steel Corp., Los Angeles, Calif.
Struthers-Wells, Warren, Pa.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Darby Corp., The, 1st and Walker, Kansas City, Kans.

KETTLES—Grease:
American Steel Works, Kansas City, Mo.
Bethlehem Foundry & Machine Co., Bethlehem, Pa.
Buffalo Foundry & Machine Co., Buffalo, N. Y.
Consolidated Steel Corp., Box 6880, E. Los Angeles, Calif.
Dallas Tank Co., Inc., 203 W. Commerce St., Dallas, Tex.
Darby Corp., The, 1st and Walker, Kansas City, Kans.
Farrar & Trefts, Inc., Buffalo, N. Y.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Leader Iron Works, Inc., Decatur 60, Ill.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson Foundry & Machine Co., The, East Liverpool, Ohio
Pollock, William B., Co., Youngstown, Ohio
Porter, H. K., Co., Inc., Pittsburgh, Pa.
Standard Steel Corp., Los Angeles, Calif.
Struthers-Wells, Warren, Pa.
Wyatt Metal & Boiler Works, Houston, Tex.

KETTLES—Mixing:
American Steel Works, Kansas City, Mo.
Biggs Boiler Works, The, Akron, Ohio
Birmingham Tank Co., Birmingham, Ala.
Buffalo Foundry & Machine Co., Buffalo, N. Y.
Consolidated Steel Corp., Box 6880, E. Los Angeles, Calif.
Dallas Tank Co., Inc., 203 W. Commerce St., Dallas, Tex.
Darby Corp., The, 1st and Walker, Kansas City, Kans.
Devine, J. P., Mfg. Co., Mount Vernon, Ill.
Farrar & Trefts, Inc., Buffalo, N. Y.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Graver Tank & Mfg. Co., 4809 Todd, East Chicago, Ill.
Lancaster Iron Works, Lancaster, Pa.
Leader Iron Works, Inc., Decatur 60, Ill.
Lukens Steel Co., Coatesville, Pa.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson Foundry & Machine Co., The, East Liverpool, Ohio
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Pfaudler Co., The, Rochester, N. Y.
Porter, H. K., Co., Inc., Pittsburgh, Pa.
Southwestern Engineering Co., Los Angeles, Calif.
Stacey Mfg. Co., The, Cincinnati, Ohio
Standard Steel Corp., Los Angeles, Calif.
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Braun Corp., 2260 E. 15th St., Los Angeles 21, Calif.
Brown Instrument Div., Wayne & Windrum Aves., Philadelphia, Pa.
Central Scientific Co., 1700 W. Irving Blvd., Chicago 13, Ill.
Curtin, W. H., & Co., Houston, Tex.
Faxfilm Co., The, 1220 W. 6th St., Cleveland 13, Ohio
Foxboro Co., Foxboro, Mass.
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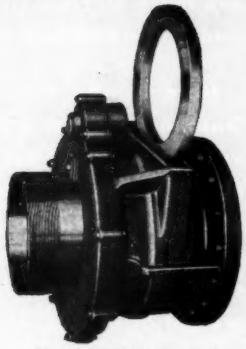
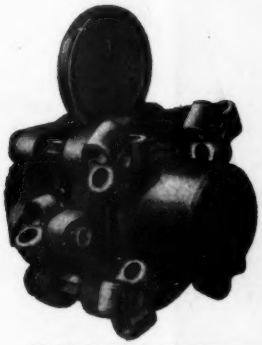
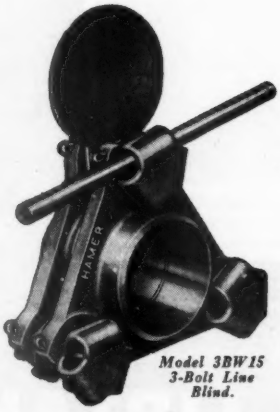


Model GLFS30 Standard Geared Line Blind.

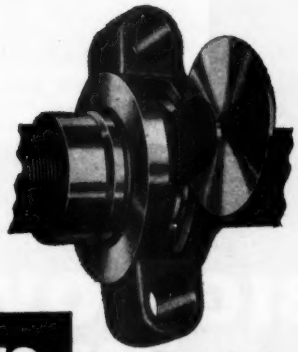
Model LFS15 Standard Line Blind.



Model BW30 4-Bolt Line Blind.



Model 3BW15 3-Bolt Line Blind.



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HAMER OIL TOOL CO.
2919 Gardenia Avenue
Long Beach 7, California

Harshaw Chemical Co., The, Cleveland 6, Ohio
Knight, Maurice A., Akron, Ohio
Leeds & Northrup Co., 4901 Stanton Ave., Philadelphia 44, Pa.
Litton Engineering Laboratories, Redwood City, Calif.
National Technical Laboratories, South Pasadena, Calif.
Palmer Co., Cincinnati, Ohio
Pfaudler Co., The, Rochester, N. Y.
Precision Scientific Co., 1750 N. Springfield Ave., Chicago, Ill.
Refinery Supply Co., Tulsa, Okla.
U. S. Stoneware Co., Akron 9, Ohio

LABORATORY GLASSWARE:
Carborundum Co., Niagara Falls, N. Y.
Central Scientific Co., 1700 W. Irving Blvd., Chicago 13, Ill.
Corning Glass Works, Corning, N. Y.
Greiner, Emil, Co., 55 Van Dam St., New York City
Harshaw Chemical Co., The, Cleveland 6, Ohio
Podbielniak Centrifugal Super-Contactor Co., 8312 S. Chicago, Chicago, Ill.
Refinery Supply Co., Tulsa, Okla.
Schaar & Co., 754 W. Lexington, Chicago, Ill.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.

LABORATORY SINKS—See SINKS, Acid proof:

LEAD WOOL:
Eagle-Picher Sales Co., Cincinnati, Ohio

LEATHER PACKING — See PACKING Leather:

LEAVES—Filter—See FILTER LEAVES:

LIGHTNING ARRESTORS — See ARRESTORS, Lightning:

LINE BLINDS:
Hamer Oil Tool Co., Long Beach 7, Calif.
Well Equipment Mfg. Co., Box 2593, Houston, Tex.

LINERS—Pump:
McClatchie Mfg. Co., Compton, Calif.
Shenango Penn Mould Co., Dover, Ohio

LININGS—Acidproof, Brick and Tile:
Bigelow-Liptak Corp., 2842 W. Grand Blvd., Detroit 2, Mich.
General Refractories Co., 1600 Real Estate Trust Bldg., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh, Pa.
Knight, Maurice A., Co., Akron, Ohio
Mexico Refractories Co., Mexico, Mo.
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
U. S. Stoneware Co., Akron 9, Ohio

LININGS—Corrosion Resistant:
Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
Atlas Lumnite Cement Co., New York City
Bigelow-Liptak Corp., Detroit 2, Mich.
Blickman, S., Inc., 23 Gregory Ave., Weehawken, N. J.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Johns-Manville Corp., 22 E. 40th St., New York City
Klemp, Wm. F., Co., 6624 S. Melvina, Chicago, Ill.
Knight, Maurice A., Co., Akron 9, Ohio
Lukens Steel Co., Coatesville, Pa.
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
National Lead Co., 111 Broadway, New York City
Nooter, John, Boiler Works Co., 1400 So. Second St., St. Louis 4, Mo.

Nukem Products Corp., 70 Niagara, Buffalo, N. Y.
Oxley Engineering Co., Ltd., London, England
Pfaudler Co., The, Rochester, N. Y.
Shenango-Penn Mold Co., Dover, Ohio
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Steel Protection & Chemical Co., Inc., Mooresville, Ind.
Sullivan Co., The, Memphis, Tenn.
Tube-Kote, Inc., 2520 Holmes Road, Houston, Tex.
U. S. Stoneware Co., Akron 9, Ohio
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Wyatt Metal & Boiler Works, Houston, Tex.
Youngstown Welding & Engineering Co., Youngstown, Ohio

LININGS—Furnace:
Atlas Lumnite Cement Co., New York City
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Bigelow-Liptak Co., 2842 W. Grand Blvd., Detroit 2, Mich.
Carborundum Co., The, Niagara Falls, N. Y.
General Refractories Co., 1600 Real Estate Trust Bldg., Philadelphia, Pa.
Green, A. P., Fire Brick Co., 1801 Railway Exch. Bldg., St. Louis, Mo.
Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh 22, Pa.
Johns-Manville Corp., 22 E. 40th St., New York City
Kellogg Co., The M. W., 225 Broadway, New York City
Laclede Christy Clay Products Co., St. Louis, Mo.
Mexico Refractories Co., Mexico, Mo.
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
North American Refractories Co., Cleveland 14, Ohio
Norton Co., Worcester, Mass.
Plibrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.
Refractory & Insulation Corp., 381 4th Ave., New York City
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sullivan Co., The, Memphis, Tenn.
U. S. Stoneware Co., Akron 9, Ohio

LININGS—Refractory:
Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Bigelow-Liptak Corp., Detroit 2, Mich.
Carborundum Co., Niagara Falls, N. Y.
Chicago Fire Brick Co., 1461 Elston Ave., Chicago, Ill.
Furnace Economy Co., 201 N. Wells St., Chicago, Ill.
General Refractories Co., 1600 Real Estate Trust Bldg., Philadelphia, Pa.
Green, A. P., Fire Brick Co., 1801 Railway Exch. Bldg., St. Louis, Mo.
Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh 22, Pa.
Johns-Manville Corp., 22 E. 40th St., New York City
Kellogg Co., The M. W., 225 Broadway, New York City
Klemp, Wm. F., Co., 6624 S. Melvina, Chicago, Ill.
Laclede Christy Clay Products Co., St. Louis, Mo.
Mexico Refractories Co., Mexico, Mo.
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
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Norton Co., Worcester, Mass.
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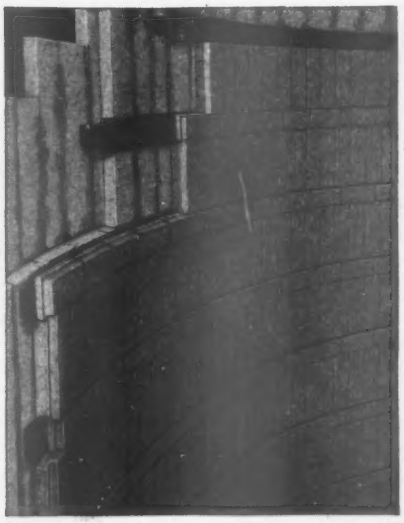

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Jeffrey Mfg. Co., The, Columbus, Ohio
Porter, H. K., Co., Inc., Pittsburgh, Pa.
Westinghouse Electric Corp., East Pittsburgh, Pa.
Whitcomb Locomotive Co., The, subsidiary of Baldwin Locomotive Co., Rochelle, Ill.

LOOK BOXES—See BOXES, Look:

LOW-TEMPERATURE INSULATION — See INSULATION, Low Temperature:

LUBRICATING DEVICES — See Specific Items:

LUBRICATORS—Force-Feed:
Adams Engineering Co., 1618 N. Fitzhugh, Dallas 4, Tex.
Bowser, Inc., Fort Wayne 2, Ind.
Elliott Co., Roto Div., Newark 1, N. J.
Hills-McCanna, 2349 Nelson, Chicago, Ill.
McCord Corp., 2587 E. Grand, Detroit, Mich.
Manzel Brothers Co., Buffalo, N. Y.
Nathan Mfg. Co., 416 E. 106th St., New York City
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Noera Mfg. Co., Division, Waterbury, Conn.
Powell, Wm., Co., The, Cincinnati, Ohio
Swift Lubricator Co., Elmira, N. Y.

LUBRICATORS—Sight Feed:
Adams Engineering Co., 1618 N. Fitzhugh, Dallas 4, Tex.
American Injector Co., 1481 14th Ave., Detroit, Mich.
Bowser, Inc., Fort Wayne, Ind.
Elliott Co., Roto Div., Newark 1, N. J.
Hills-McCanna, 2349 Nelson, Chicago, Ill.
Lunkenheimer Co., The, Cincinnati, Ohio
McCord Corp., 2587 E. Grand, Detroit, Mich.
Manzel Bros. Co., Buffalo, N. Y.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Nugent, Wm. W., Co., 412 N. Hermitage, Chicago 22, Ill.
Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.
Powell, Wm., Co., The, Cincinnati, Ohio
Swift Lubricator Co., Elmira, N. Y.
Well Equipment Mfg. Co., Box 2593, Houston, Tex.

MACHINES—Pipe-Beveling, Oxyacetylene—See PIPE-BEVELING MACHINES, Oxyacetylene:

MACHINES — Pipe-Cleaning — See PIPE CLEANING MACHINES:

MACHINES—Pipe Cutting & Threading—See THREADING & CUTTING MACHINES:

MACHINES — Welding — See WELDERS, Electric Arc:

MANHOLES—Tank and Vessel:
Bethlehem Steel Co., Bethlehem, Pa.
Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill.
Eaton Metal Products Co., 4800 York St., Denver 16, Colo.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Johnston & Jennings Co., Cleveland, Ohio
Lenape Hydraulic Pressing & Forging Co., West Chester, Pa.
Maloney Tank Mfg. Co., Tulsa, Okla.
Mosher Steel Co., Houston, Tex.
Oxley Engineering Co., Ltd., London, England
Petroleum Iron Works Div., Pennsylvania Shipyards, Inc., Beaumont, Tex.
Shand & Jurs Co., Berkeley, Calif.
Southwestern Engineering Co., Los Angeles, Calif.
Stacey Mfg. Co., The, Cincinnati, Ohio
Staytite Co., The, Houston, Tex.
Vapor Recovery Systems Co., The, Compton, Calif.
Weber Engine Works, Kansas City, Mo.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Wyatt Metal & Boiler Works, Houston, Tex.

MANOMETERS—U-Type:
Brown Instrument Div., Wayne and Windrum Aves., Philadelphia, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Connelly Iron Sponge & Governor Co., 3154 S. California, Chicago, Ill.
Corning Glass Works, Corning, N. Y.
Hays, A. M., Corp., Michigan City, Ind.
Meriam Co., The, Cleveland, Ohio
Mine Safety Appliances Co., Pittsburgh, Pa.
Shand & Jurs, Berkeley, Calif.
Precision Scientific Co., 1750 N. Springfield Ave., Chicago, Ill.
Republic Flow Meters Co., Chicago, Ill.
Trerice, H. O., Co., Detroit, Mich.
Trimount Inst Co., 37 W. Van Buren St., Chicago 5, Ill.
United States Gauge Div. of American Mach. & Metals, Inc., Sellersville, Pa.
Vapor Recovery Systems Co., Inc., Compton, Calif.

MANOMETERS—Well-Type:
Builders-Providence, Inc., Div. of Builders Foundry, Providence, R. I.
Connelly Iron Sponge & Governor Co., 3154 S. California, Cleveland, Ohio
Leeds & Northrup Co., Philadelphia, Pa.
Precision Scientific Co., 1750 N. Springfield Ave., Chicago, Ill.
Republic Flow Meters Co., Chicago, Ill.
Simplex Valve & Meter Co., 68th and Upland Sts., Philadelphia, Pa.
Trerice, H. O., Co., Detroit, Mich.
Trimount Inst. Co., 37 W. Van Buren St., Chicago 5, Ill.

MASKS—Gas:
Acme Protection Equipment Co., Inc., 3616 Liberty Ave., Pittsburgh, Pa.
Bullard, E. D., Co., 275 8th St., San Francisco, Calif.
Chicago Eye Shield Co., 2300 Warren Blvd., Chicago 12, Ill.
Davis Emergency Equipment Co., Inc., Newark, N. J.
General Tire & Rubber Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Greiner, Emil, Co., 55 Van Dam St., New York City
Industrial Products Co., 2628 N. 4th St., Philadelphia, Pa.
McDonald, B. F., Co., 5112 S. Hoover, Los Angeles 37, Calif.
Mine Safety Appliances Co., Pittsburgh, Pa.
Pulmosan Safety Equipment Co., Brooklyn, N. Y.

MEASURING TAPES—See TAPES, Measuring:

MECHANICAL TUBING—See Tubing, Mechanical:

MESH—Wire—See Cloth, Wire:

METAL—Corrosion-Resisting—See ALLOYS, Corrosion-Resisting:

METALLIC FILTER CLOTH—See FILTER CLOTH, Metallic:

METER HOUSES—See HOUSES, Meter:

METER LEVELING SADDLES:
American Meter Co., 60 East 42nd St., New York City 17
Daniel Orifice Fitting Co., 3352 Union Pacific Ave., Los Angeles, Calif.
Foxboro Co., Foxboro, Mass.
Pittsburgh Equitable Meter Div., Rockwell Mfg. Co., Pittsburgh, Pa.

Robinson Orifice Fitting Co., 1435 Santa Fe Ave., Los Angeles 21, Calif.
Wescott & Greis, Inc., Kennedy Bldg., Tulsa, Okla.

METERS—CO_2—See RECORDERS, CO_2:

METERS—Air:

American District Steam Co., North Tonawanda, N. Y.
American Meter Co., 60 East 42nd St., New York City 17
Bailey Meter Co., 1038 Ivanhoe Road, Cleveland, Ohio
Brooks Rotameter Co., Lansdale, Pa.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Foxboro Co., Foxboro, Mass.
Kent, George, Ltd., Luton, Bedfordshire, England
Mason-Neilan Regulator Co., Boston, Mass.
Meriam Co., The, Cleveland, Ohio
Moore Products Co., H & Lycoming Sts., Philadelphia 24, Pa.
Pittsburgh Equitable Meter Div., Rockwell Mfg. Co., Pittsburgh, Pa.
Republic Flow Meters Co., Chicago, Ill.
Roots-Connersville Blower Corp., Connersville, Ind.

METERS—Boiler:

Bailey Meter Co., 1038 Ivanhoe Road, Cleveland, Ohio
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Foxboro Co., Foxboro, Mass.
Hays, A. M., Corp., Michigan City, Ind.
Kent, George, Ltd., Luton, Bedfordshire, England
Neptune Meter Co., 50 W. 50th St., New York City
Republic Flow Meters Co., Chicago, Ill.
Simplex Valve & Meter Co., 68th and Upland, Philadelphia, Pa.

METERS—Flow:

American District Steam Co., North Tonawanda, N. Y.
American Meter Co., 60 East 42nd St., New York City 17
American Recording Chart Co., 3113 E. 11th St., Los Angeles 23, Calif.
Bailey Meter Co., 1038 Ivanhoe Road, Cleveland, Ohio
Barton Instrument Co., 2306 E. 38th St., Los Angeles 11, Calif.
Bristol Co., The, Waterbury, Conn.
Brooks Rotameter Co., Lansdale, Pa.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Fischer & Porter Co., Hatboro, Pa.
Foxboro Co., Foxboro, Mass.
Kent, George, Ltd., Luton, Bedfordshire, England
Leeds & Northrup Co., Philadelphia 44, Pa.
Meriam Co., The, 1955 W. 112th St., Cleveland, Ohio
Moore Products Co., Philadelphia 24, Pa.
Nugent, Wm., & Co., 410 N. Hermitage, Chicago 22, Ill.
Pittsburgh Equitable Meter Div., Rockwell Mfg. Co., Pittsburgh, Pa.
%Proportioneers%, Inc., Providence, R. I.
Republic Flow Meters Co., Chicago, Ill.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia, Pa.
Simplex Valve & Meter Co., 68th and Upland, Philadelphia, Pa.
Taylor Instrument Companies, Rochester, N. Y.
Trimount Inst. Co., 37 W. Van Buren St., Chicago 5, Ill.
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Bailey Meter Co., 1038 Ivanhoe Road, Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Fischer & Porter Co., Hatboro, Pa.
Foxboro Co., Foxboro, Mass.
Kent, George, Ltd., Luton, Bedfordshire, England
Moore Products Co., Philadelphia 24, Pa.
Pittsburgh Equitable Meter Div., Rockwell Mfg. Co., Pittsburgh, Pa.
Republic Flow Meters Co., Chicago, Ill.
Simplex Valve & Meter Co., 68th and Upland, Philadelphia, Pa.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.

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Brodie, Ralph N., Co., Oakland, Calif.
Kent, George, Ltd., Luton, Bedfordshire, England
Rockwell Mfg. Co., 400 N. Lexington Ave., Pittsburgh 8, Pa.
Roots-Connersville Blower Corp., Connersville, Ind.
Simplex Valve & Meter Co., 68th and Upland, Philadelphia, Pa.
Smith Meter Co., 5743 Smithway St., Los Angeles, Calif.
Sprague Meter Co., Bridgeport, Conn.

METERS—Gasoline:

American Meter Co., Inc., 60 E. 42nd St., New York 17, N. Y.
Bowser, Inc., Fort Wayne 2, Ind.
Brodie, Ralph N., Co., Oakland, Calif.
Brooks Rotameter Co., Lansdale, Pa.
Buffalo Meter Co., Buffalo, N. Y.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Fischer & Porter Co., Hatboro, Pa.
Foxboro Co., Foxboro, Mass.
Kent, George, Ltd., Luton, Bedfordshire, England
Neptune Meter Co., 50 W. 50th St., New York City 20
%Proportioneers%, Inc., Providence, R. I.
Rockwell Mfg. Co., 400 N. Lexington Ave., Pittsburgh 8, Pa.
Smith Meter Co., 5743 Smithway St., Los Angeles, Calif.
Worthington Pump & Machinery Corp., Harrison, N. J.

METERS—Oil:

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American Recording Chart Co., 3113 E. 11th St., Los Angeles, Calif.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Bowser, Inc., Fort Wayne 2, Ind.
Brodie, Ralph N., Co., Oakland, Calif.
Brooks Rotameter Co., Lansdale, Pa .
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Buffalo Meter Co., Buffalo, N. Y.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Fischer & Porter Co., Hatboro, Pa.
Foxboro Co., Foxboro, Mass.
Kent, George, Ltd., Luton, Bedfordshire, England
Meriam Co., The, 1955 W. 112th St., Cleveland, Ohio
National Airoil Burner Co., 1236 E. Sedgley Ave., Philadelphia, Pa.
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Rockwell Mfg. Co., 400 N. Lexington Ave., Pittsburgh 8, Pa.
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METERS—Orifice:
American District Steam Co., North Tonawanda, N. Y.
American Meter Co., 60 East 42nd St., New York City 17
American Recording Chart Co., 3113 E. 11th St., Los Angeles 23, Calif.
Bailey Meter Co., 1038 Ivanhoe Road, Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Daniel Orifice Fitting Co., 3352 Union Pacific Ave., Los Angeles, Calif.
Fischer & Porter Co., Hatboro, Pa.
Foxboro Co., Foxboro, Mass.
Kent, George, Ltd., Luton, Bedfordshire, England
Meriam Co., The, 1955 W. 112th St., Cleveland, Ohio
Moore Products Co., Philadelphia 24, Pa.
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Rockwell Mfg. Co., 400 N. Lexington Ave., Pittsburgh 8, Pa.
Simplex Valve & Meter Co., 68th and Upland, Philadelphia, Pa.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Co., Rochester, N. Y.
Trimount Inst. Co., 37 W. Van Buren St., Chicago 5, Ill.

METERS—pH:
Betz, W. H. & L. D., Frankford, Philadelphia, Pa.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Central Scientific Co., 1700 W. Irving Blvd., Chicago 13, Ill.
Foxboro Co., Foxboro, Mass.
Leeds & Northrup, Philadelphia, Pa.
National Technical Laboratories, South Pasadena, Calif.

METERS—Water:
Bailey Meter Co., 1038 Ivanhoe Road, Cleveland, Ohio
Brooks Rotameter Co., Lansdale, Pa.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Buffalo Meter Co., Buffalo, N. Y.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Fischer & Porter Co., Hatboro, Pa.
Foxboro Co., Foxboro, Mass.
Henzzey Co., Watertown, Wis.
Kent, George, Ltd., Luton, Bedfordshire, England
Meriam Co., The, 1955 W. 112th St., Cleveland, Ohio
Moore Products Co., Philadelphia, Pa.
Neptune Meter Co., 50 W. 50th St., New York City
Pittsburgh Equitable Meter Div., Rockwell Mfg. Co., Pittsburg, Pa.
Republic Flow Meters Co., Chicago, Ill.
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Simplex Valve & Meter Co., 68th and Upland, Philadelphia, Pa.

MIST EXTRACTORS—See EXTRACTORS, Mist:

MIXERS—Acid-Treating:
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Dearborn Chemical Co., 310 S. Michigan Ave., Chicago, Ill.
Duriron Co., The, Inc., Dayton, Ohio
Eastern Engr. Co., New Haven, Conn.
International Engineering Co., Dayton, Ohio
Knight, Maurice A., Co., Akron 9, Ohio
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Porter, H. K., Co., Pittsburgh 22, Pa.
Turbo-Mixer Corp., The, New York City

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MIXERS—Doctor Treating—See MIXERS, Propeller Type:

MIXERS—Gasoline—See MIXERS, Propeller Type:

MIXERS—Grease—See KETTLES:

MIXERS—Liquid:
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General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
International Engineering Co., Dayton, Ohio
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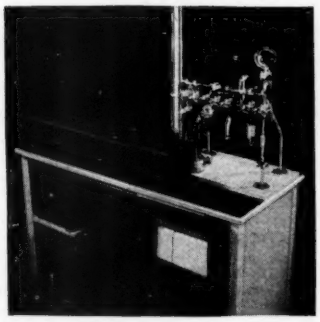

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New England Tank & Tower Co., Everett, Mass.
Pfaudler Co., The, Rochester, N. Y.
Patterson Foundry & Machine Co., The, East Liverpool, Ohio
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Pollock, William B., Co., Youngstown, Ohio
Porter, H. K., Co., Inc., Pittsburgh, 22, Pa.
Reynolds Electric Co., 2650 W. Congress St., Chicago 12, Ill.
Stratford Engineering Corp., Kansas City, Mo.
Struthers-Wells, Warren, Pa.

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Dorr Co., Inc., 570 Lexington Ave., New York City
Eastern Engineering Co., New Haven, Conn.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
International Engineering Co., Dayton, Ohio
Mixing Equipment Co., Inc., Rochester, N. Y.
Patterson Foundry & Machine Co., East Liverpool, Ohio
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Struthers-Wells, Warren, Pa.
Treadwell Construction Co., Midland, Pa.
Turbo-Mixer Corp., 247 Park Ave., New York City
Youngstown Welding & Engineering Co., Youngstown, Ohio

MIXING KETTLES—See KETTLES, Mixing:

MIXING NOZZLES — See NOZZLES, Mixing:

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MUFFLERS — Exhaust — See SILENCERS: Exhaust:

MULTIPLE V-BELTS — See BELTS, Multiple-V:

NATURAL GAS POLYMERIZATION — See PROCESSES, Refinery:

NECKS—Welding:
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
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Walworth Co., 60 E. 42nd St., New York City.
Wyatt Metal & Boiler Works, Houston, Tex.
Youngstown Welding & Engineering Co., Youngstown, Ohio

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NOZZLES—Blast Cleaning:
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Haveg Corp., Newark, Del.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia, Pa.
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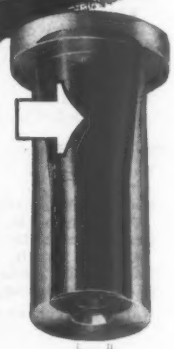
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Texas Pipe Bending Co., Houston, Tex.
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Vulcan Steel Tank Corp., Tulsa, Okla.
Wyatt Metal & Boiler Works, Houston, Tex.
York Corp., York, Pa.

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OIL CUPS—See CUPS, Oil:

OIL METERS—See METERS, Oil:

OIL THIEFS—See THIEFS, Oil:

OIL PURIFIERS—See PURIFIERS, Oil:

OIL SEALS—See SEALS, Oil:

OIL TESTING INSTRUMENTS:
Braun Corp., 2260 E. 15th St., Los Angeles 21, Calif.
Leeds & Northrup Co., Philadelphia 44, Pa.
Podbielniak Centrifugal Super-Contractor Co., 8312 S. Chicago, Chicago, Ill.
Precision Scientific Co., 1750 N. Springfield, Chicago, Ill.
Refinery Supply Co., Tulsa, Okla.
Schaar & Co., 754 W. Lexington, Chicago, Ill.
Spencer Lens Co., Buffalo, N. Y.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. J.
Ultra Violet Products, Inc., Los Angeles 27, Calif.

OPTICAL PYROMETERS — See PYROMETERS:

ORIFICE FITTINGS:
American Meter Co., 60 East 42nd St., New York 17, N. Y.
Barton Instrument Co., 2306 E. 38th St., Los Angeles 11, Calif.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Daniel Orifice Fitting Co., 3352 Union Pacific Ave., Los Angeles 23, Calif.
Foxboro Co., The, Foxboro, Mass.
Pittsburgh Equitable Meter Div., Rockwell Mfg. Co., Pittsburgh, Pa.
Republic Flow Meters Co., Chicago, Ill.
Robinson Orifice Fitting Co., 1435 Santa Fe Ave., Los Angeles 21, Calif.
Taylor Instrument Companies, Rochester, N. Y.
Watson-Stillman Co., Roselle, N. J.

ORIFICE FLANGES—See FLANGES, Orifice:

ORIFICE METERS—See METERS, Orifice:

ORIFICE PLATES:
American Meter Co., 60 East 42nd St., New York 17, N. Y.
Barton Instrument Co., 2306 E. 38th St., Los Angeles 11, Calif.
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Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Daniel Orifice Fitting Co., 3352 Union Pacific Ave., Los Angeles 23, Calif.
Foxboro Co., The, Foxboro, Mass.
Jarecki Mfg. Co., St. Louis, Mo.
Maintenance Engineering Corp., 3611 Clinton Dr., Houston, Tex.
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Pittsburgh Equitable Meter Div., Rockwell Mfg. Co., Pittsburgh, Pa.
%Proportioneers%, Inc., Providence, R. I.
Republic Flow Meters Co., Chicago, Ill.
Robinson Orifice Fitting Co., 1435 Santa Fe Ave., Los Angeles 21, Calif.
Taylor Instrument Companies, Rochester, N. Y.

PACKING—Asbestos:
Asbestos Textile Co., Inc., 165 W. Wacker Drive, Chicago 1, Ill.
Allpax Co., The, Mamaroneck, N. Y.
Belmont Packing & Rubber Co., Butler & Sepviva, Philadelphia, Pa.
Carey, Philip, Mfg. Co., The, Cincinnati, Ohio
Garlock Packing Co., Palmyra, N. Y.
Gatke Corp., 228 N. La Salle St., Chicago, Ill.
Goetze Gasket & Packing Co., New Brunswick, N. J.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Greene, Tweed & Co., 4377 Bronx Blvd., New York 66, N. Y.
Hewitt Rubber Corp., Buffalo, N. Y.
Johns-Manville Corp., 22 E. 40th St., New York City
Keasbey & Mattison Co., Ambler, Pa.
Klinger, Richard, Ltd., Sidcup (Kent), England
Linear Packing & Rubber Co., Inc., Philadelphia, Pa.
Manhattan Rubber Mfg. Div., Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., Passaic, N. J.
Metallic Gasket Co., New Brunswick, N. J.
Quaker Rubber Corp., Wissinoming, Philadelphia, Pa.
Raybestos-Manhattan, Inc., Manheim, Pa.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sterling Packing & Gasket Co., Houston, Tex.

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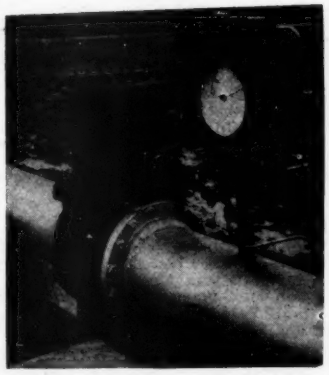

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Victor Mfg. & Gasket Co., 5750 W. Roosevelt Rd., Chicago, Ill.

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Cincinnati Rubber Mfg. Co., The, Norwood Sta., Cincinnati, Ohio
Crane Packing Co., 1801 Belleplaine Ave., Chicago, Ill.
Darcoid Co., Inc., 149 6th Ave., New York City
Darling Valve & Mfg. Co., Williamsport, Pa.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Farnam, F. D., Co., 4940 W. Flournoy St., Chicago 44, Ill.
Felt Products Mfg. Co., Chicago, Ill.
Garlock Packing Co., Palmyra, N. Y.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Greene, Tweed & Co., 4377 Bronx Blvd., New York 66, N. Y.
Hewitt Rubber Corp., Buffalo, N. Y.
Johns-Manville Corp., 22 E. 40th St., New York City
Linear Packing & Rubber Co., Inc., Philadelphia, Pa.
Manhattan Rubber Mfg. Div., Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., Passaic, N. J.
Plant Rubber & Asbestos Works, San Francisco, Calif.
Quaker Rubber Corp., Wissinoming, Philadelphia, Pa.
Raybestos-Manhattan, Inc., Manheim, Pa.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sterling Packing & Gasket Co., Houston, Tex.
Thermoid Co., Trenton, N. J.
Union Asbestos & Rubber Co., Cicero, Ill.
U. S. Rubber Co., 1230 6th Ave., New York City

PACKING—Fibre:
Asbestos Textile Co., Inc., 165 W. Wacker Dr., Chicago 1, Ill.
Belmont Packing & Rubber Co., Butler & Sepviva, Philadelphia, Pa.
Crane Packing Co., 1801 Belleplaine Ave., Chicago, Ill.
Darcoid Co., Inc., 149 6th Ave., New York City

Darling Valve & Mfg. Co., Williamsport, Pa.
Farnam, F. D., Co., 4940 W. Flournoy St., Chicago 44, Ill.
Felt Products Mfg. Co., Chicago, Ill.
Garlock Packing Co., Palmyra, N. Y.
Goetze Gasket & Packing Co., New Brunswick, N. J.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodyear Tire & Rubber Co., Akron, Ohio
Greene, Tweed & Co., 4377 Bronx Blvd., New York City
Johns-Manville Corp., 22 E. 40th St., New York City
Linear Packing & Rubber Co., Inc., Philadelphia, Pa.
Maloney, F. H. Co., Houston, Tex.
Mechanical Rubber Co., Passaic, N. J.
Plant Rubber & Asbestos Works, San Francisco, Calif.
Quaker Rubber Corp., Wissinoming, Philadelphia, Pa.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sterling Packing & Gasket Co., Houston, Tex.
Thermoid Co., Trenton, N. J.
U. S. Rubber Co., 1230 Sixth Ave., New York City
Raybestos-Manhattan, Inc., Manheim, Pa.
Victor Mfg. & Gasket Co., 5750 W. Roosevelt Rd., Chicago, Ill.

PACKING—Hot-Oil Pump:
Belmont Packing & Rubber Co., Butler & Sepviva, Philadelphia, Pa.
Carlyle Rubber Co., 64 Park Place, New York City
Crane Packing Co., 1801 Belleplaine Ave., Chicago, Ill.
Darcoid Co., Inc., 149 Sixth Ave., New York City
Darling Valve & Mfg. Co., Williamsport, Pa.
Durabla Mfg. Co., 114 Liberty St., New York City
Durametallic Corp., Kalamazoo, Mich.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Farnam, F. D., Co., 4940 W. Flournoy St., Chicago 44, Ill.
Felt Products Mfg. Co., Chicago, Ill.
Garlock Packing Co., Palmyra, N. Y.
Goetze Gasket & Packing Co., New Brunswick, N. J.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodyear Tire & Rubber Co., Akron, Ohio
Greene, Tweed & Co., 4377 Bronx Blvd., New York City
Houghton & Company, E. F., 303 West Lehigh Ave., Philadelphia, Pa.
Johns-Manville Corp., 22 E. 40th St., New York City
Linear Packing & Rubber Co., Inc., Philadelphia, Pa.
Manhattan Rubber Mfg. Div., Raybestos-Manhatan, Inc., Passaic, N. J.
Mechanical Rubber Co., Passaic, N. J.
National Engineering Products Co., Inc., Washington, D. C.
Quaker Rubber Corp., Wissinoming, Philadelphia, Pa.
Raybestos-Manhattan, Inc., Manheim, Pa.
Rodpak Mfg. Co., 1315 Natoma St., San Francisco 3, Calif.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sterling Packing & Gasket Co., Houston, Tex.
Thermoid Co., Trenton, N. J.
U. S. Rubber Co., 1230 Sixth Ave., New York City

PACKING—Hydraulic:
Crane Packing Co., Chicago, Ill.
Houghton, E. F., Co., Philadelphia, Pa.
Johns-Manville Corp., 22 E. 40th St., New York City
Linear Packing & Rubber Co., Inc., Philadelphia, Pa.

PACKING—Leather:
Aero-Seal Rubber Products Co., 113 N. Green St., Chicago 7, Ill.
Chicago Belting Co., 125 N. Green, Chicago, Ill.
Chicago Rawhide & Mfg. Co., 1301 Elston, Chicago 22, Ill.
Darling Valve & Mfg. Co., Williamsport, Pa.
Double Seal Ring Co., Ft. Worth, Tex.
Excelsior Leather Washer Co., Rockford, Ill.
Farnam, F. D., Co., 4940 W. Flournoy St., Chicago 44, Ill.
Greene, Tweed & Co., 4377 Bronx Blvd., New York 66, N. Y.
Linear Packing & Rubber Co., Inc., Philadelphia, Pa.
Quaker Rubber Corp., Philadelphia, Pa.
Rodpak Mfg. Co., 1315 Natoma St., San Francisco 3, Calif.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sterling Packing & Gasket Co., Houston, Tex.
Watson-Stillman Co., Rosell, N. J.

PACKING — Mechanical Seal—See SEALS, Oil:

PACKING—Metallic and Semimetallic:
Belmont Packing & Rubber Co., Butler & Sepviva, Philadelphia, Pa.
Cook, C. Lee, Mfg. Co., Inc., Louisville, Ky.
Crane Packing Co., 1801 Belleplaine Ave., Chicago, Ill.
Darcoid Co., Inc., 149 Sixth Ave., New York City
Double Seal Ring Co., Fort Worth, Tex.
Durametallic Corp., Kalamazoo, Mich.
Farnam, F. D., Co., 4940 W. Flournoy St., Chicago 44, Ill.
Felt Products Mfg. Co., Chicago, Ill.
France Manufacturing Co., Belgrade St., Philadelphia, Pa.
Garlock Packing Co., Palmyra, N. Y.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodyear Tire & Rubber Co., Akron, Ohio
Greene, Tweed & Co., 4377 Bronx Blvd., New York 66, N. Y.
Johns-Manville Corp., 22 E. 40th St., New York City
Linear Packing & Rubber, Inc., Philadelphia, Pa.
Manhattan Rubber Mfg. Div., Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., Passaic, N. J.
Packing Engineering Corp., Cranford, N. J.
Plant Rubber & Asbestos Works, San Francisco, Calif.
Quaker Rubber Corp., Wissinoming, Philadelphia, Pa.
Raybestos-Manhattan, Inc., Manheim, Pa.
Rodpak Mfg. Co., 1315 Natoma St., San Francisco 3, Calif.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sterling Packing & Gasket Co., Houston, Tex.
U. S. Rubber Co., 1230 Sixth Ave., New York City

PACKING—Plastic:
Acadia Synthetic Products Div., Western Felt Works, Chicago, Ill.
Allpax Co., The, Mamaroneck, N. Y.
Continental-Diamond Fibre Co., Bridgeport, Pa.
Crane Packing Co., 1801 Belleplaine Avenue, Chicago, Ill.
Darling Valve & Mfg. Co., Williamsport, Pa.
Durametallic Corp., Kalamazoo, Mich.
Farnam, F. D., Co., 4940 W. Flournoy St., Chicago 44, Ill.
Formica Insulation Co., The, Cincinnati, Ohio
Garlock Packing Co., Palmyra, N. Y.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodyear Tire & Rubber Co., Akron, Ohio
Greene, Tweed & Co., 4377 Bronx Blvd., New York 66, N. Y.
Johns-Manville Corp., 22 E. 40th St., New York City
Linear Packing & Rubber Co., Inc., Philadelphia, Pa.
Maloney, F. H., Co., Houston, Tex.
Mechanical Rubber Co., Passaic, N. J.
Plant Rubber & Asbestos Works, San Francisco, Calif.
Raybestos-Manhattan, Inc., Manheim, Pa.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sterling Packing & Gasket Co., Houston, Tex.
U. S. Stoneware Co., Akron, Ohio

PACKING—Rubber:
Acadia Synthetic Products Div., Western Felt Works, Chicago, Ill.
Aero-Seal Rubber Products Co., 113 N. Green St., Chicago 7, Ill.
Belmont Packing & Rubber Co., Butler & Sepviva, Philadelphia, Pa.
Carlyle Rubber Co., 64 Park Place, New York City
Darcoid Co., Inc., 149 Sixth Ave., New York City
Darling Valve & Mfg. Co., Williamsport, Pa.
Farnam, F. D., 4940 W. Flournoy St., Chicago 44, Ill.
Felt Products Mfg. Co., Chicago, Ill.
Garlock Packing Co., Palmyra, N. Y.
Gates Rubber Co., 999 S. Broadway, Denver 17, Colo.
General Tire & Rubber Co., Akron, Ohio
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Greene, Tweed & Co., 4377 Bronx Road, New York 66, N. Y.
Hewitt Corp., Buffalo, N. Y.
Houghton & Co., E. F., 303 W. Lehigh Ave., Philadelphia, Pa.
Johns-Manville Corp., 22 E. 40th St., New York City
Maloney, F. H., Co., Houston, Tex.
Manhattan Rubber Mfg. Div., Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., Passaic, N. J.
Plant Rubber & Asbestos Works, San Francisco, Calif.
Quaker Rubber Corp., Wissinoming, Philadelphia, Pa.
Raybestos-Manhattan, Inc., Manheim, Pa.
Republic Rubber Co., The, Youngstown, Ohio
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sterling Packing & Gasket Co., Houston, Tex.
Thermoid Co., Trenton, N. J.
U. S. Rubber Co., 1230 Sixth Ave., New York City
U. S. Stoneware Co., Akron, Ohio
Weatherhead Co., 300 E. 131st St., Cleveland 8, Ohio

PACKING—Sheet:
Armstrong Cork Co., Lancaster, Pa.
Asbestos Textile Co., Inc., 165 W. Wacker Dr., Chicago 1, Ill.
Belmont Packing & Rubber Co., Butler and Sepviva, Philadelphia, Pa.
Carlyle Rubber Co., 64 Park Place, New York City
Crane Packing Co., 1801 Belleplaine Ave., Chicago, Ill.
Darcoid Co., Inc., 149 Sixth Ave., New York City
Durabla Mfg. Co., 114 Liberty St., New York City
Farnam, F. D., Co., 4940 W. Flournoy St., Chicago 44, Ill.
Garlock Packing Co., Palmyra, N. Y.
Gatke Corp., 228 N. La Salle St., Chicago, Ill.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Greene, Tweed & Co., 4377 Bronx Blvd., New York City
Hewitt Rubber Corp., Buffalo, N. Y.
Johns-Manville Corp., 22 E. 40th St., New York City
Keasby & Mattison Co., Ambler, Pa.
Manhattan Rubber Mfg. Div., Raybestos-Manhattan, Inc., Passaic, N. J.
Mechanical Rubber Co., Passaic, N. J.
Metallic Gasket Co., New Brunswick, N. J.
Plant Rubber & Asbestos Works, San Francisco, Calif.
Quaker Rubber Corp., Wissinoming, Philadelphia, Pa.
Raybestos-Manhattan, Inc., Manheim, Pa.
Republic Rubber Co., The, Youngstown, Ohio

Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sterling Packing & Gasket Co., Houston, Tex.
Thermoid Co., Trenton, N. J.
U. S. Rubber Co., 1230 Sixth Ave., New York City
Vellumoid Co., Worcester, Mass.
Victor Mfg. & Gasket Co., 5750 W. Roosevelt Rd., Chicago, Ill.

PACKING TOWER—See TOWER PACKING:

PACKING HOOKS:
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Linear Packing & Rubber Co., Inc., Philadelphia, Pa.

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Arco Co., 7301 Bessemer Ave., Cleveland, Ohio
Barrett Div. Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
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Chipman Chemical Co., Inc., Bound Brook, N. J.
Donahue, F. J., Varnish Co., 10586 Knodell Ave., Detroit 13, Mich.
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
Eagle-Picher Sales Co., The, Cincinnati, Ohio
Horn, A. C., Co., Houston, Tex.
Joseph Dixon Crucible Co., Jersey City, N. J.
Kellogg Co., M. W., The, 225 Broadway, New York 7, N. Y.
Lucas, Robert M., Co., 1955 W. 31st St., Chicago, Ill.
Maintenance, Inc., Wooster, Ohio
Moore, Goodloe & Co., Danville, Ill.
National Lead Co., 111 Broadway, New York City
Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh, Pa.
Quigley Co., Inc., 527 Fifth Ave., New York City
Reilly Tar & Chemical Co., Indianapolis, Ind.
Rust-Oleum Corp., 1928 W. Grand Ave., Chicago, Ill.
Sherwin-Williams Co., The, Midland Bank Bldg., Cleveland, Ohio
Sinclair Refining Co., 10 W. 51st St., New York 20, N. Y.
Skybryte Co., 3125 Perkins Ave., Cleveland, Ohio
Steel Protection & Chemical Co., Inc., Mooresville, Ind.
Sullivan Co., The, Memphis, Tenn.
U. S. Stoneware Co., Akron, Ohio
Wailes-Dove Hermiston Corp., Westfield, N. J.

PAINTS—Acid-Resistant:
Aluminum Industries, Inc., Cincinnati 25, Ohio
Amercoat Division of American Pipe & Const. Co., Los Angeles, Calif.
American-Marietta Co., 43 E. Ohio, Chicago, Ill.
Barrett Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
Brown, Andrew, Co., 5431 Riverside Dr., Los Angeles 22, Calif.
Carbozite Co., Inc., Pittsburgh 22, Pa.
Donohue, F. J., Varnish Co., The, 10586 Knodell Ave., Detroit 13, Mich.
DuPont de Nemours, E. I., & Co., Inc., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, Ohio
Humble Oil & Refining Co., Houston, Tex.
Knight, Maurice A., Co., Akron, Ohio
Maintenance, Inc., Wooster, Ohio
Moore, Goodloe E., Co., Danville, Ill.
Nukem Products Corp., Buffalo 20, N. Y.
Protective Coatings, Inc., Detroit, Mich.
Quigley Co., Inc., 527 Fifth Ave., New York, N. Y.
Rector Well Equipment Co., Fort Worth, Tex.
Reilly Tar & Chemical Co., Indianapolis, Ind.
Reynolds Metals Co., 2500 S. 3rd St., Louisville 1, Ky.
Ruberoid Co., The, 500 Fifth Ave., New York 18, N. Y.
Truscom Laboratories, The, Caniff & G.T.R.R., Detroit 11, Mich.
Tube-Kote, Inc., 2520 Holmes Road, Houston, Tex.
U. S. Stoneware Co., Akron, Ohio
Wailes, Dove-Hermiston Corp., Westfield, N. J.

PAINTS—Heat-Resistant:
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Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.

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Barrett Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.
Brown, Andrew, Co., 5431 S. Riverside Dr., Los Angeles 22, Calif.
Carbozite Co., Inc., Pittsburgh 22, Pa.
Chipman Chemical Co., Inc., Bound Brook, N. J.
DuPont de Nemours, E. I., Co., Inc., Wilmington, Del.
Farnam, F. D., 4940 W. Flournoy St., Chicago 44, Ill.
Horn, A. C., Co., Houston, Tex.
Humble Oil & Refining Co., Houston, Tex.
Kellogg, M. W., Co., 225 Broadway, New York City
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Lucas, Robert M., Co., 1955 W. 31st St., Chicago, Ill.
Moore, Goodloe & Co., Danville, Ill.
National Engineering Products, Inc., Washington, D. C.
Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh, Pa.
Protective Coatings, Inc., Detroit, Mich.
Quigley Co., Inc., 527 Fifth Ave., New York City
Sherwin-Williams Co., The, Midland Bldg., Cleveland, Ohio
Truscon Laboratories, Inc., The, Caniff & G.T.R.R., Detroit, Mich.
U. S. Stoneware, Akron, Ohio
Wailes-Dove Hermiston Corp., Westfield, N. J.

PANELBOARDS—See SWITCHBOARDS, Electric:

PENSTOCKS:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Locomotive Co., 30 Church St., New York, N. Y.
Armco Drainage & Metal Products, Inc., Middletown, Ohio
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Bethlehem Steel Co., Bethlehem, Pa.
Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Dallas Tank Co., Dallas, Tex.
Darby Corp., The, First and Walker, Kansas City, Kans.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Graver Tank & Mfg. Co., 4809 Todd, East Chicago, Ind.
Petroleum Iron Works Div. of Pennsylvania Shipyards, Inc., Beaumont, Tex.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Pollock, William B., Co., Youngstown, Ohio
Southwest Fabricating & Welding Co., 261 75th St., Houston 11, Tex.
Stacey Mfg. Co., The, Cincinnati, Ohio
Standard Steel Corp., Los Angeles, Cal.
Taylor Forge & Pipe Works, Chicago 90, Ill.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Wyatt Metal & Boiler Works, Houston, Tex.

PIPE—Alloy:
Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
American Brass Co., Waterbury 88, Conn.
American Locomotive Co., 30 Church St., New York, N. Y.
Babcock & Wilcox Tube Co., The, 85 Liberty St., New York City
Bethlehem Steel Co., Bethlehem, Pa.
Blaw-Knox Co., Blawnox, Pa.
Carpenter Steel Co., Kenilworth, N. J.
Chase Brass & Copper Co., Waterbury, Conn.
Cooper Alloy Foundry Co., The, Bloy St. and Ramsey Ave., Hillside, N. J.
The Duraloy Co., Scottdale, Pa.
Globes Steel Tubes Co., 3839 W. Burnham St., Milwaukee 4, Wis.

Haynes Stellite Co., Kokomo, Ind.
Kellogg Co., The M. W., 225 Broadway, New York City
National Lead Co., 111 Broadway, New York 6, N. Y.
National Tube Co., Box 266, Pittsburgh, Pa.
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Revere Copper & Brass, Inc., 230 Park Ave., New York City
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
Shenango-Penn Mold Co., Dover, Ohio
Spang-Chalfant Div. of Nat. Supply, Pittsburgh, Pa.
Wheeling Steel Corp., Wheeling, W. Va.
Youngstown Sheet & Tube Co., The, Youngstown, Ohio
Youngstown Welding & Engineering Co., Youngstown 9, Ohio

PIPE—Asbestos and Cement:
Carey, Philip, Mfg. Co., The, Cincinnati, Ohio
Johns-Manville Corp., 22 E. 40th St., New York City
Keasbey-Mattison Co., Ambler, Pa.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Union Asbestos & Rubber Co., Cicero, Ill.

PIPE—Brass:
American Brass Co., 414 Meadow St., Waterbury, Conn.
Chase Brass & Copper Co., Waterbury, Conn.
Revere Copper & Brass, Inc., 230 Park Ave., New York City
Shenango-Penn Mold Co., Dover, Ohio

PIPE—Cast-Iron:
American Cast Iron Pipe Co., Birmingham, Ala.
Cast Iron Pipe Research Assn., 122 S. Michigan Ave., Chicago, Ill.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
National Machine Works, 1559 N. Sheffield, Chicago, Ill.
Pittsburgh Piping & Equipment Co., Pittsburgh, Pa.
Shenango-Penn Mold Co., Dover, Ohio
U. S. Pipe & Foundry Co., Burlington, N. J.

PIPE—Cement-Lined:
American Cast Iron Pipe Co., Birmingham, Ala.
Cast Iron Pipe Research Assn., 122 S. Michigan Ave., Chicago, Ill.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Hughes Garneau Co., Petroleum Bldg., Tulsa 3, Okla.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
National Tube Co., Box 266, Pittsburgh, Pa.

PIPE—Electric-Welded:
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American Locomotive Co., 30 Church St., New York, N. Y.
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Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
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Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
Smith, A. O., Corp., Milwaukee, Wis.
Southwest Welding & Mfg. Co., Alhambra, Calif.
Taylor Forge & Pipe Works, Chicago 90, Ill.
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Universal Oil Products Co., 316 S. Michigan Ave., Chicago, Ill.
Vulcan Copper & Supply Co., 120 Sycamore St., Cincinnati 2, Ohio
Winkler-Koch Engineering Co., Wichita, Kans.
Youngstown Welding & Engineering Co., The, Youngstown, Ohio

PROPORTIONING EQUIPMENT:
American Meter Co., 60 E. 42nd St., New York City
Automatic Temperature Control Co., Inc., 34 E. Logan St., Philadelphia 44, Pa.
Brooks Rotameter Co., Lansdale, Pa.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Dearborn Chemical Co., 310 S. Michigan Ave., Chicago, Ill.
Graver Tank & Mfg. Co., E. Chicago, Ind.
Haering, D. W., Co., Chicago, Ill.
Milton Roy Pumps, Chestnut Hill, Philadelphia, Pa.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
%Proportioneers, Inc.%, Providence, R. I.
Wallace & Tiernan Products, Inc., Belleville, N. J.

PROTECTIVE COATINGS—Pipe:
Amercoat Division of American Pipe & Construction Co., Los Angeles, Calif.
American-Marietta Co., 43 E. Ohio, Chicago, Ill.
Baldwin-Hill Co., Trenton, N. J.
Barrett Div., The Allied Chemical & Dye Corp., 40 Rector St., New York City
Carbozite Co., Inc., Pittsburgh 22, Pa.
Columbian Steel Tank Co., Kansas City, Mo.
Dearborn Chemical Co., 310 S. Michigan Ave., Chicago, Ill.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Federal Telephone & Radio Corp., 67 Broad St., New York City
General Paint Corp., Hill-Hubbell & Co. Div., Cleveland, Ohio.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Haering, D. W., Co., Chicago, Ill.
Horn, A. C., 815 Dowling St., Houston, Tex.
Houghton Co., E. F., 303 W. Lehigh Ave., Philadelphia 33, Pa.
Industrial Engr. Co., Wilmington, Del.
Johns-Manville Corp., 22 E. 40th St., New York City
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Maintenance, Inc., Wooster, Ohio
Mechanical Rubber Co., Passaic, N. J.
National Lead Co., 111 Broadway, New York 6, N. Y.
Nukem Products Corp., Buffalo 20, N. Y.
Pfaudler Co., The, Rochester, N. Y.
Philadelphia Quartz Co., 121 S. Third St., Philadelphia, Pa.
Pipe Line Service Corp., Franklin Park, Ill.
Presstite Engineering Co., 3900 Chouteau Ave., St. Louis 10, Mo.
Protective Coatings, Inc., Detroit, Mich.
Quigley Co., Inc., 56 W. 45th St., New York City
Reilly Tar & Chemical Co., Indianapolis, Ind.
Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky.
Ruberoid Co., 500 Fifth Ave., New York City
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sullivan Co., The, Memphis, Tenn.
Tank Seal Products Co., Tulsa, Okla.
Tube-Kote, Inc., 2520 Holmes Road, Houston, Tex.
U. S. Stoneware Co., Akron, Ohio
Wailes-Dove Hermiston Corp., Westfield, N. J.

PROTECTIVE COATINGS—Tank Interior:
Amercoat Division of American Pipe & Const. Co., Los Angeles, Calif.
American-Marietta Co., 43 E. Ohio, Chicago, Ill.
Atlas Lumnite Cement Co., 135 E. 42nd St., New York City
Barrett Div., The Allied Chemical & Dye Corp., 40 Rector St., New York City
Carbozite Co., Inc., Pittsburgh 22, Pa.
Columbian Steel Tank Co., Kansas City, Mo.
Dearborn Chemical Co., 310 S. Michigan Ave., Chicago, Ill.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
Horn, A. C., Co., Houston, Tex.
Knight, Maurice A., Akron, Ohio
Maintenance, Inc., Wooster, Ohio
Mechanical Rubber Co., Passaic, N. J.
Nooter, John, Boiler Works Co., St. Louis, Mo.

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Pfaudler Co., The, Rochester, N. Y.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Presstite Engineering Co., 3900 Chouteau Ave., St. Louis, Mo.
Protective Coatings, Inc., Detroit, Mich.
Quigley Co., Inc., 56 W. 45th St., New York City
Rector Well Equipment Co., Fort Worth, Tex.
Reilly Tar & Chemical Co., Inc., Indianapolis, Ind.
Reynolds Metals Co., Louisville, Ky.
Sullivan Co., The, Memphis, Tenn.
Tank Seal Products Co., Tulsa, Okla.
Tube-Kote, Inc., 2520 Holmes Road, Houston, Tex.
U. S. Rubber Co., 1230 Sixth Ave., New York City
U. S. Stoneware Co., Akron, Ohio
Wailes-Dove Hermiston Corp., Westfield, N. J.

PUMP VALVES—See VALVES, Pump:

PUMP GOVERNORS—See GOVERNORS, Pump:

PUMPS—Acid:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American-Marsh Pumps, Inc., Battle Creek, Mich.
Ampco Metal, Inc., Milwaukee, Wis.
Aurora Pump Co., Aurora, Ill.
Bingham Pump Co., Portland, Ore.
Blackmer Pump Co., Grand Rapids, Mich.
Buffalo Pumps, Inc., Buffalo, N. Y.
Byron Jackson Co., P.O. Box 2017, Terminal Annex, Los Angeles, Calif.
Dayton Dowd Co., Quincy, Ill.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
Duriron Co., The, Inc., Dayton, Ohio
Eastern Engr. Co., New Haven, Conn.
Economy Pumps, Inc., Hamilton, Ohio
Gardner-Denver Co., Quincy, Ill.
Gaso Pump & Burner Mfg. Co., Tulsa, Okla.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Haveg Corp., 929 N. Michigan, Chicago, Ill.
Hills-McCanna, 2349 Nelson, Chicago, Ill.
Industrial Products Co., 2828 N. Fourth St., Philadelphia, Pa.
Ingersoll-Rand Co., Phillipsburg, N. J.
Kinney Mfg. Co., 3529-41 Washington St., Boston, Mass.
Lawrence Pump & Engine Co., Lawrence, Mass.
Lecourtenay Co., Newark, N. J.
Leyman Mfg. Corp., McGowan Pump Div., Cincinnati, Ohio
Milton Roy Pumps, Chestnut Hill, Philadelphia, Pa.
Nash Engr. Co., South Norwalk, Conn.
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
National Lead Co., 111 Broadway, New York City
National Transit Pump & Machine Co., Oil City, Pa.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Pacific Pumps, Inc., Huntington Park, Calif.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
%Proportioneers, Inc.%, Providence, R. I.
Roper, George D., Corp., Rockford, Ill.
Stratford Engineering Co., Kansas City, Mo.
U. S. Stoneware Co., Akron, Ohio
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Wallace & Tiernan Co., Belleville, N. J.
Wheatley Brothers, Tulsa, Okla.
Wilfley & Sons, Inc., A. R., Denver, Colo.
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Air—See COMPRESSORS, Air:

PUMPS—Ammonia:
Aldrich Pump Co., Allentown, Pa.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American-Marsh Pumps, Inc., Battle Creek, Mich.
Byron Jackson Co., P.O. Box 2017, Terminal Annex, Los Angeles 54, Calif.
Buffalo Pumps, Inc., Buffalo, N. Y.
Dayton Dowd Co., Quincy, Ill.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
Eastern Engr. Co., New Haven, Conn.
Foster Pump Works, Inc., 50 Washington St., Brooklyn, N. Y.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Hills-McCanna, 2349 Nelson, Chicago, Ill.
Ingersoll-Rand Co., Phillipsburg, N. J.
Lecourtenay Co., Newark, N. J.
Leyman Mfg. Corp., McGowan Pump Div., Cincinnati, Ohio
Milton Roy Pumps, Philadelphia 18, Pa.
National Transit Pump & Machine Co., Oil City, Pa.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Pacific Pumps, Inc., Huntington Park, Calif.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
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Roper, George D., Corp., Rockford, Ill.
Stratford Engineering Corp., Kansas City, Mo.
Viking Pump Co., Cedar Falls, Iowa
Wilson-Snyder Div., Oil Well Supply Co., Braddock, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Asphalt:
Aeroil Burner Co., Inc., 561 Park Ave., West New York, N. J.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Blackmer Pump Co., Grand Rapids, Mich.
Dayton Dowd Co., Quincy, Ill.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
Gardner-Denver Co., Quincy, Ill.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Hayward-Tyler & Co., Ltd., Luton (Bedfordshire), England

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Leyman Mfg. Corp., McGowan Pump Div., Cincinnati, Ohio
Milton Roy Pumps, Chestnut Hill, Philadelphia, Pa.
National Transit Pump & Machine Co., Oil City, Pa.
Noera Mfg. Co., Division, Waterbury, Conn.
Pacific Pumps, Inc., Huntington Park, Calif.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Roper, George D., Corp., Rockford, Ill.
Viking Pump Co., Cedar Falls, Iowa
Weir, G. & J., Ltd., Glasgow, Scotland
Wilson-Snyder Mfg. Div. of Oil Well Supply Co., Braddock, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Boiler-Feed Water:
Aldrich Pump Co., Allentown, Pa.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American-Marsh Pumps, Inc., Battle Creek, Mich.
Aurora Pump Co., Aurora, Ill.
Buffalo Pumps, Inc., Buffalo, N. Y.
Byron Jackson Co., P.O. Box 2017, Terminal Annex, Los Angeles, Calif.
Chain Belt Co., Milwaukee, Wis.
Clark Bros. Co., Inc., P.O. Box 560, Olean, N. Y.
Dayton Dowd Co., Quincy, Ill.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
DeLaval Steam Turbine Co., Trenton, N. J.
Deming Co., Salem, Ohio
Eclipse Fuel Engineering Co., Rockford, Ill.
Economy Pumps, Inc., Hamilton, Ohio
Fairbanks, Morse Co., 600 S. Michigan Ave., Chicago, Ill.
Frederick Iron & Steel Co., Frederick, Md.
Gardner-Denver Co., Quincy, Ill.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Haering, D. W., & Co., 205 W. Wacker Drive, Chicago, Ill.
Hayward-Tyler & Co., Ltd., Luton (Bedfordshire), England
Hills-McCanna, 2349 Nelson, Chicago, Ill.
Ingersoll-Rand Co., Phillipsburg, N. J.
Lawrence Pump & Engine Co., Lawrence, Mass.
Lecourtenay Co., Newark, N. J.
Leyman Mfg. Corp., McGowan Pump Div., Cincinnati, Ohio
Nash Engineering Co., South Norwalk, Conn.
National Steam Pump Co., Upper Sandusky, Ohio
National Supply Co., Toledo, Ohio
National Transit Pump & Machine Co., Oil City, Pa.
Oil Well Supply Co., Box 478, Dallas, Tex.
Pacific Pumps, Inc., Huntington Park, Calif.
Peerless Pump Div., Los Angeles 31, Calif.
Pomona Pump Div. of Joshua Hendy Iron Works, Pomona, Calif.
Porter, H. K., Co., Inc., Oliver Bldg., Pittsburgh 22, Pa.
Reda Pump Co., Bartlesville, Okla.
Union Steam Pump Co., Battle Creek, Mich.
Weir, G. & J., Ltd., Glasgow, Scotland
Wilson-Snyder Mfg. Div. of Oil Well Supply Co., Braddock, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Brine:
Allen, W. H., Sons & Co., Ltd., Bedford, England
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American-Marsh Pumps, Inc., Battle Creek, Mich.
Aurora Pump Works, Aurora, Ill.
Buffalo Pumps, Inc., Buffalo, N. Y.
Byron Jackson Co., P. O. Box 2017, Terminal Annex, Los Angeles, Calif.
Dayton Dowd Co., Quincy, Ill.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
Deming Co., Salem, Ohio

Eastern Engr. Co., New Haven, Conn.
Economy Pumps, Inc., Hamilton, Ohio
Fairbanks-Morse Co., 600 S. Michigan Ave., Chicago, Ill.
Gardner-Denver Co., Quincy, Ill.
Gaso Pump & Burner Mfg. Co., Tulsa, Okla.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Hayward-Tyler & Co., Ltd., Luton (Bedfordshire), England
Ingersoll-Rand Co., Phillipsburg, N. J.
Lawrence Pump & Engine Co., Lawrence, Mass.
Lecourtenay Co., Newark, N. J.
Leyman Manufacturing Corp., McGowan Pump Div., Cincinnati, Ohio
Milton Roy Pumps, Philadelphia 18, Pa.
Nash Engineering Co., So. Norwalk, Conn.
National Steam Pump Co., Upper Sandusky, Ohio
National Transit Pump & Machine Co., Oil City, Pa.
Oil Well Supply Co., Box 478, Dallas, Tex.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Pacific Pumps, Inc., Huntington Park, Calif.
Peerless Pump Div., Los Angeles 31, Calif.
Porter, H. K., Co., Inc., 32 Oliver Bldg., Pittsburgh 22, Pa.
Reda Pump Co., Bartlesville, Okla.
Roots-Connersville Blower Corp., Connersville, Ind.
Roper, George D., Corp., Rockford, Ill.
Taber Pump Co., Buffalo, N. Y.
Union Steam Pump Co., Battle Creek, Mich.
Viking Pump Co., Cedar Falls, Iowa
Weir, G. & J., Ltd., Glasgow, Scotland
Wheatley Brothers, Tulsa, Okla.
Wilson-Snyder Mfg. Div. of Oil Well Supply Co., Braddock, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Centrifugal:
Aldrich Pump Co., Allentown, Pa.
Allen, W. H., Sons & Co., Ltd., Bedford, England
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Alsop Engineering Co., Milldale, Conn.
American Manganese Steel Co., 389 E. 14th St., Chicago Heights, Ill.
American Marsh Pumps, Inc., Battle Creek, Mich.
American Well Works, Aurora, Ill.
Bingham Pump Co., Portland, Ore.
Brown & Sharpe Mfg. Co., Providence, R. I.
Buffalo Pumps, Inc., Buffalo, N. Y.
Byron Jackson Co., P. O. Box 2017, Terminal Annex, Los Angeles, Calif.
Chain Belt Co., Milwaukee, Wis.
Clark Bros. Co., Inc., P. O. Box 560, Olean, N. Y.
Dayton Dowd Co., Quincy, Ill.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
Dean Hill Pump Co., Anderson, Ind.
DeLaval Steam Turbine Co., Trenton, N. J.
Deming Co., The, Salem, Ohio
Eastern Engr. Co., New Haven, Conn.
Economy Pumps, Inc., Hamilton, Ohio
Fairbanks Morse Co., 600 S. Michigan Ave., Chicago, Ill.
Gardner-Denver Co., Quincy, Ill.
Gorman-Rupp Co., Mansfield, Ohio
Goulds Pumps, Inc., Seneca Falls, N. Y.
Hayward, Tyler & Co., Ltd., Luton (Bedfordshire), England
Homelite Corp., Port Chester, N. Y.
Ingersoll-Rand Co., Phillipsburg, N. J.
Lawrence Pump & Engine Co., Lawrence, Mass.
Leyman Mfg. Corp., McGowan Pump Div. Cincinnati, Ohio
Manistee Iron Works, Manistee, Mich.
Marlow Pumps, Ridgewood, N. J.
Mather & Platt, Ltd., Manchester, England
Nash Engr. Co., South Norwalk, Conn.
National Carbon Co., Inc., Cleveland, Ohio
Novo Engine Co., Lansing, Mich.
Oil Well Supply Co., Box 478, Dallas, Tex.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Pacific Pumps, Inc., Huntington Park, Calif.
Peerless Pump Div., Los Angeles 31, Calif.
Pioneer Gen-E-Motor Corp., 466 W. Superior, Chicago, Ill.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Reda Pump Co., Bartlesville, Okla.
Smith, A. O., Corp., Milwaukee, Wis.
Smith Meter Co., 5743 Smithway, Los Angeles, Calif.
Sterling Machinery Corp., Kansas City, Mo.
Union Steam Pump Co., Battle Creek, Mich.
Wilson-Snyder Mfg. Div. of Oil Well Supply Co., Braddock, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Chemical:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Alsop Engineering Co., Milldale, Conn.
Aurora Pump Co., Aurora, Ill.
Beach-Russ Co., 50 Church St., New York City
Bingham Pump Co., Portland, Ore.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Blackmer Pump Co., Grand Rapids, Mich.
Buffalo Pumps, Inc., Buffalo, N. Y.
Byron Jackson Co., P. O. Box 2017, Terminal Annex, Los Angeles, Calif.
Dayton Dowd Co., Quincy, Ill.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
DeLaval Steam Turbine Co., Trenton, N. J.
Eastern Engr. Co., New Haven, Conn.
Fairbanks Morse Co., 600 S. Michigan Ave., Chicago, Ill.
Gardner-Denver Co., Quincy, Ill.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Haering, D. W., & Co., 205 W. Wacker Drive, Chicago, Ill.
Hamner Co., Leland, Houston, Tex.
Hills-McCanna, 2349 Nelson, Chicago, Ill.
Ingersoll-Rand Co., Phillipsburg, N. J.
Lawrence Pump & Engine Co., Lawrence, Mass.
Leyman Manufacturing Corp., McGowan Pump Div., Cincinnati, Ohio
McCord Corp., Detroit, Mich.
Manzel Bros. Co., Buffalo, N. Y.
Milton Roy Pumps, Chestnut Hill, Philadelphia, Pa.
Nash Engr. Co., South Norwalk, Conn.
National Carbon Co., Inc., 305 42nd St., New York 17, N. Y.
National Transit Pump & Machine Co., Oil City, Pa.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Pacific Pumps, Inc., Huntington Park, Calif.
Pennsylvania Pump & Compressor Co., Easton, Pa.
Porter, H. K., Co., Inc., Oliver Bldg., Pittsburgh 22, Pa.
%Proportioneers, Inc.%, Providence, R. I.
Roper, George D., Corp., Rockford, Ill.
Union Steam Pump Co., Battle Creek, Mich.
U. S. Stoneware Co., Akron, Ohio
Wilson-Snyder Div. Oil Well Supply Co., Braddock, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.
Youngstown Welding & Engineering Co., The, Youngstown, Ohio

PUMPS, Deep Well—See PUMPS, Turbine, Deep Well:

PUMPS—Diaphragm:
Deming Co., The, Salem, Ohio
Goodrich, B. F., Co., Akron, Ohio
Goulds Pumps, Inc., Seneca Falls, N. Y.
Marlow Pumps, Ridgewood, N. J.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Novo Engine Co., Lansing, Mich.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
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Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
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Clark Bros. Co., Inc., P. O. Box 560, Olean, N. Y.
Dayton Dowd Co., Quincy, Ill.
Fairbanks Morse Co., 600 S. Michigan Ave., Chicago, Ill.
Leyman Mfg. Corp., McGowan Pump Div., Cincinnati, Ohio
Oliver United Filters, Inc., 33 W. 42nd St., New York, N. Y.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
%Proportioneers, Inc.%, Providence, R. I.
Robbins & Myers, Inc., Springfield, Ohio
Shriver & Co., T., Harrison, N. J.
Union Steam Pump Co., Battle Creek, Mich.
Wilson-Snyder Div. Oil Well Supply Co., Braddock, Pa.

PUMPS—Hot Oil:
American Manganese Steel Div., 389 E. 14th St., Chicago Heights, Ill.
American-Marsh Pumps, Inc., Battle Creek, Mich.
Aurora Pump Co., Aurora, Ill.
Blackmer Pump Co., Grand Rapids, Mich.
Byron Jackson Co., P. O. Box 2017, Terminal Annex, Los Angeles, Calif.
Oil Well Supply Co., Box 478, Dallas, Tex.
Pacific Pumps, Inc., Huntington Park, Calif.
Peabody Engineering Corp., 580 Fifth Ave., New York 19, N. Y.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Prescott Co., The, Menominee, Mich.
%Proportioneers, Inc.%, Providence, R. I.
Roper, George D., Corp., Rockford, Ill.
Smith, A. O., Corp., Milwaukee, Wis.
Union Steam Pump Co., Battle Creek, Mich.
Weir, G. & J., Ltd., Glasgow, Scotland
Wilson-Snyder Mfg. Div. of Oil Well Supply Co., Braddock, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Plunger:
Aldrich Pump Co., Allentown, Pa.
American-Marsh Pumps, Inc., Battle Creek, Mich.
Barnes Manufacturing Co., Mansfield, Ohio
Clark Bros. Co., Inc., Olean, N. Y.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
Deming Co., The, Salem, Ohio
Domestic Engine & Pump Co., Shippensburg, Pa.

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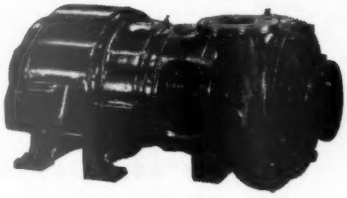

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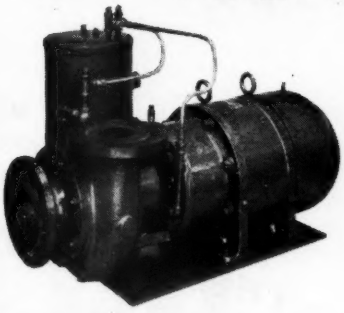

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Dayton Dowd Co., Quincy, Ill.
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Gardner-Denver Co., Quincy, Ill.
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Ingersoll-Rand Co., Phillipsburg, N. J.
Kinny Mfg. Co., 3529-41 Washington St., Boston 30, Mass.
Leyman Manufacturing Corp., McGowan Pump Div., Cincinnati, Ohio
Milton Roy Pumps, Philadelphia 18, Pa.
National Transit Pump & Machine Co., Oil City, Pa.
Fairbanks Morse Co., 600 S. Michigan Ave., Chicago, Ill.
Gorman-Rupp Pump Co., Mansfield, Ohio
Goulds Pumps, Inc., Seneca Falls, N. Y.
Hayward-Tyler & Co., Ltd., Luton (Bedfordshire), England
Hills-McCanna, 2349 Nelson, Chicago, Ill.
Leyman Manufacturing Corp., McGowan Pump Div., Cincinnati, Ohio
Milton Roy Pumps, Chestnut Hill, Philadelphia, Pa.
National Steam Pump Co., Upper Sandusky, Ohio
National Transit Pump & Machine Co., Oil City, Pa.
Oil Well Supply Co., Dallas, Tex.
Pacific Pumps, Inc., Huntington Park, Calif.
Prescott Co., The, Menominee, Mich.
%Proportioneers, Inc.%, Providence, R. I.
Union Steam Pump Co., Battle Creek, Mich.
Weir, G. & J., Ltd., Glasgow, Scotland
Wheland Co., Chattanooga, Tenn.
Wilson-Snyder Mfg. Div. of Oil Well Supply Co., Braddock, Pa.

PUMPS—Power:
Aldrich Pump Co., Allentown, Pa.
Alten's Foundry & Machine Works, 226 W. Wheeling St., Lancaster, Ohio
American-Marsh Pumps, Inc., Battle Creek, Mich.
Aurora Pump Co., Aurora, Ill.
Barnes Manufacturing Co., Mansfield, Ohio
Blackmer Pump Co., Grand Rapids, Mich.

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Deming Co., The, Salem, Ohio
Fairbanks Morse Co., 600 S. Michigan Ave., Chicago, Ill.
Gardner-Denver Co., Quincy, Ill.
Gaso Pump & Burner Mfg. Co., Tulsa, Okla.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Ingersoll-Rand Co., 11 Broadway, New York City
Kinney Mfg. Co., 3529-41 Washington St., Boston, Mass.
Leyman Manufacturing Corp., McGowan Pump Div., Cincinnati, Ohio
Milton Roy Pumps, Philadelphia, Pa.
National Steam Pump Co., Upper Sandusky, Ohio
National Supply Co., Toledo, Ohio
National Transit Pump & Machine Co., Oil City, Pa.
Oil Well Supply Co., Box 478, Dallas, Tex.
Pacific Pumps, Inc., Huntington Park, Calif.
Peerless Pump Div., Los Angeles 31, Calif.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22. Pa.
Roper, George D., Corp., Rockford, Ill.
Sterling Machinery Corp., Kansas City, Mo.
Union Steam Pump Co., Battle Creek, Mich.
Viking Pump Co., Cedar Falls, Iowa
Weir, G. & J., Ltd., Glasgow, Scotland
Wheatley Brothers, Tulsa, Okla.
Wheland Co., Chattanooga, Tenn.
Wilson-Snyder Mfg. Div. of Oil Well Supply Co., Braddock, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Proportioning:
American Water Softener Co., Fourth and Lehigh Ave., Philadelphia, Pa.
Betz, W. H. and L. D., Philadelphia, Pa.
Bird Archer Co., 400 Madison Ave., New York City.
Bowser, Inc., Fort Wayne, Ind.

Dearborn Chemical Co., 310 S. Michigan Ave., Chicago, Ill.
Elgin Softener Corp., Elgin, Ill.
Hamner Co., Leland, Houston, Tex.
Hayward-Tyler & Co., Ltd., Luton (Bedfordshire), England
Hills-McCanna, 2349 Nelson, Chicago, Ill.
Manzel Bros. Co., Buffalo, N. Y.
Milton Roy Pumps, Chestnut Hill, Philadelphia, Pa.
Oliver United Filters, Inc., 33 W. 42nd St., New York City
Pacific Pumps, Inc., Huntington Park, Calif.
%Proportioneers, Inc.%, Providence, R. I.

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At Constant Rate or In Proportion to Variable Flow

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Wallace & Tiernan Products, Inc., The, Belleville 9, N. J.

PUMPS—Reciprocating:
Aldrich Pump Co., Allentown, Pa.
American-Marsh Pumps, Inc., Battle Creek, Mich.
Barnes Manufacturing Co., Mansfield, Ohio
Clark Bros. Co., Inc., P. O. Box 560, Olean, N. Y.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
Deming Co., The, Salem, Ohio
Fairbanks Morse Co., 600 S. Michigan Ave., Chicago, Ill.
Gardner-Denver Co., Quincy, Ill.
Gaso Pump & Burner Mfg. Co., Tulsa, Okla.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Hills-McCanna, 2349 Nelson, Chicago, Ill.
Ingersoll-Rand Co., Phillipsburg, N. J.
Leyman Manufacturing Corp., McGowan Pump Div., Cincinnati, Ohio
Milton Roy Pumps, Chestnut Hill, Philadelphia, Pa.
National Steam Pump Co., Upper Sandusky, Ohio
National Transit Pump & Machine Co., Oil City, Pa.
Oil Well Supply Co., Box 478, Dallas, Tex.
Palmer-Bee Co., Detroit 12, Mich.
Prescott Co., The, Menominee, Mich.
%Proportioneers%, Inc., Providence, R. I.
Wheland Co., Chattanooga, Tenn.
Wilson-Snyder Mfg. Div. of Oil Well Supply Co., Braddock, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Rotary:
Aurora Pump Co., Aurora, Ill.
Blackmer Pump Co., Grand Rapids, Mich.

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Bucket Design—Self-adjusting for wear

CAPACITIES 1½—25 GPM
56 models
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Ideal for stock-room dispensing. Also used for refueling field equipment.

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Dayton Dowd Co., Quincy, Ill.
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Deming Co., The, Salem, Ohio
Eastern Engr. Co., New Haven, Conn.
Fairbanks Morse Co., 600 S. Michigan Ave., Chicago, Ill.
Foster Pump Works, Inc., 50 Washington St., Brooklyn, N. Y.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Kinney Mfg. Co., 3529-41 Washington St., Boston, Mass.
McDonald, A. Y. Mfg. Co., 12th and Pine, Dubuque, Iowa
Nash Engr. Co., South Norwalk, Conn.
National Transit Pump & Machine Co., Oil City, Pa.
Pomona Pump Div. of Joshua Hendy Iron Works, Pomona, Calif.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Prescott Co., The, Menominee, Mich.
Robbins & Myers, Inc., Springfield, Ohio
Roper, George D., Corp., Rockford, Ill.
Schutte & Koerting Co., 1175 Thompson St., Philadelphia 22, Pa.
Viking Pump Co., Cedar Falls, Iowa
Weir, G. & J., Ltd., Glasgow, Scotland
Worthington Pump & Machinery Corp., Harrison, N. J.
Yale & Towne Mfg. Co., The, Stamford, Conn.

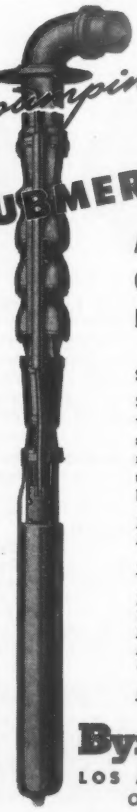
PUMPS—Semi-rotary, Wing Type:
Deming Co., Salem, Ohio
Newman, Hender & Co., Ltd., Woodchester, Glos., England

PUMPS—Screw:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Dayton Dowd Co., Quincy, Ill.
DeLaval Steam Turbine Co., Trenton, N. J.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.

PUMPS—Submersible, Electric Centrifugal:
Aldrich Pump Co., Allentown, Pa.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Manganese Steel Div., 389 E. 14th St., Chicago Heights, Ill.
Aurora Pump Co., Aurora, Ill.
Buffalo Pumps, Inc., Buffalo, N. Y.
Byron Jackson Co., P. O. Box 2017, Terminal Annex, Los Angeles, Calif.
Dean Hill Pump Co., Anderson, Ind.
Fairbanks, Morse Co., 600 S. Michigan, Chicago 5, Ill.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Hayward-Tyler & Co., Ltd., Luton (Bedfordshire), England
Ingersoll-Rand Co., 11 Broadway, New York City
Reda Pump Co., Bartlesville, Okla.
Worthington Pump & Machinery Corp., Harrison, N. Y.

A packaged pumping station

THE BJ SUBMERSIBLE



A Major Advancement Over All Other Types of Deepwell Turbine Pumps

The Submersible, manufactured exclusively by Byron Jackson, differs from all other types of deepwell turbine pumps. It is delivered, ready for installation as a compact, "packaged" pumping station: motor-pump unit, column pipe, marine cable, weatherproof starting panel. The motor-pump unit (direct-connected motor and deepwell turbine pump) operates *entirely submerged in water* at *any* well-depth, delivers water to surface through column pipe.

Motor sizes: 7½ to 350 hp
Capacities: 50 to 10,000 gpm

SUBMERSIBLE ADVANTAGES

Submersible design readjusts the entire water-pumping problem. With precision-assembled, oil and mercury sealed pump motor submerged in water at *any* depth, the installation and maintenance bugaboos of shaft-type installations are erased.

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No Well Too Deep
Well-Adapted to Crooked Wells
No Water Contamination
Minimum Noise at Surface
Unaffected by Floods or Atmospheric Conditions
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Byron Jackson Co.
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American-Marsh Pumps, Inc., Battle Creek, Mich.
Barnes Manufacturing Co., Mansfield, Ohio
Blackmer Pump Co., Grand Rapids, Mich.
Buffalo Pumps, Inc., Buffalo, N. Y.
Byron Jackson Co., P. O. Box 2017, Terminal Annex, Los Angeles, Calif.
Chain Belt Co., Milwaukee, Wis.
Clark Bros., Co., Inc., P.O. Box 560, Olean, N. Y.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
Deming Co., The, Salem, Ohio
Gaso Pump & Burner Mfg. Co., Tulsa, Okla.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Ingersoll-Rand Co., 11 Broadway, New York City
Leyman Manufacturing Corp., McGowan Pump Div., Cincinnati, Ohio
Marlow Pumps, Ridgewood, N. J.
Nash Engr. Co., South Norwalk, Conn.
National Transit Pump & Machine Co., Oil City, Pa.
Noera Mfg., Co., Division, Waterbury, Conn.
Oil Well Supply Co., Box 478, Dallas, Tex.
Pacific Pumps, Inc., Huntington Park, Calif.
Peerless Pump Div., Los Angeles 31, Calif.
Pomona Pump Div. of Joshua Hendy Iron Works, Pomona, Calif.
Prescott Co., The, Menominee, Mich.
Roper, George D., Corp., Rockford, Ill.
Sterling Machinery Corp., Kansas City, Mo.
Taber Pump Co., Buffalo, N. Y.
Union Steam Pump Co., Battle Creek, Mich.
Viking Pump Co., Cedar Falls, Iowa
Weir, G. & J., Ltd., Glasgow, Scotland

PUMPS—Tar:

American-Marsh Pumps, Inc., Battle Creek, Mich.
Blackmer Pump Co., Grand Rapids, Mich.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
Foster Pump Works, Inc., 50 Washington St., Brooklyn, N. Y.
Goulds Pumps, Inc., Seneca Falls, N. Y.
Hayward-Tyler & Co., Ltd., Luton (Bedfordshire), England
Kinney Mfg. Co., 3529-41 Washington St., Boston, Mass.
Leyman Manufacturing Corp., McGowan Pump Div., Cincinnati, Ohio
Milton Roy Pumps, Philadelphia 18, Pa.
National Transit Pump & Machine Co., Oil City, Pa.
Noera Mfg. Co., Division, Waterbury, Conn.
Pacific Pumps, Inc., Huntington Park, Calif.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
%Proportioneers, Inc.%, Providence, R. I.
Roper, George D., Corp., Rockford, Ill.
Union Steam Pump Co., Battle Creek, Mich.
Viking Pump Co., Cedar Falls, Iowa
Wilson-Snyder Mfg., Div. of Oil Well Supply Co., Braddock, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Triplex:

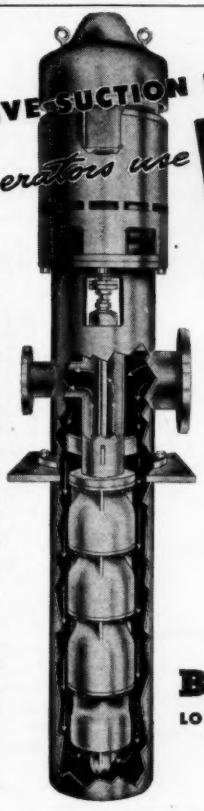
Aldrich Pump Co., Allentown, Pa.
American-Marsh Pumps, Inc., Battle Creek, Mich.
Clark Bros. Co., Inc., Box 560, Olean, N. Y.
Dean Brothers Pumps, Inc., Indianapolis, Ind.
Deming Co., The, Salem, Ohio
Gorman-Rupp Co., Mansfield, Ohio
Goulds Pumps, Inc., Seneca Falls, N. Y.
Hayward-Tyler & Co., Ltd., Luton (Bedfordshire), England
Kobe, Inc., Huntington Park, Calif.
National Transit Pump & Machine Co., Oil City, Pa.
Oil Well Supply Co., Dallas, Tex.
Prescott Co., The, Menominee, Mich.
%Proportioneers, Inc.%, Providence, R. I.
Union Steam Pump Co., Battle Creek, Mich.
Watson-Stillman Co., Fitting Div., Roselle, N. J.
Weir, G. & J., Ltd., Glasgow, Scotland
Wheatley Brothers, Tulsa, Okla.
Wilson-Snyder Mfg. Div. of Oil Well Supply Co., Braddock, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Turbine, Deep Well:

American Well Works, Aurora, Ill.
Aurora Pump Co., Aurora, Ill.
Byron Jackson Co., P.O. Box 2017, Terminal Annex, Los Angeles, Calif.
Croll-Reynolds Engineering Co., 17 John St., New York City
Dean Brothers Pumps, Inc., Indianapolis, Ind.
Devine, J. P., Manufacturing Co., Mount Vernon, Ill.
Foster Wheeler Corp., 165 Broadway, New York City
Fuller Co., Catasauqua, Pa.
Gardner-Denver Co., Quincy, Ill.
Gaso Pump & Burner Mfg. Co., Tulsa, Okla.
Ingersoll-Rand Co., Phillipsburg, N. J.
Kinney Mfg. Co., 3529-41 Washington St., Boston, Mass.
Leyman Manufacturing Corp., McGowan Pump Div., Cincinnati, Ohio
Lifton Engineering Laboratories, Redwood City, Calif.

Where **NET POSITIVE SUCTION HEAD** *is Limited*

Operators use **BJ**



VMT PUMPS

The VMT (Vertically Mounted Turbine) is designed for handling liquids—hot or cold, corrosive or non-corrosive—where net positive suction head is limited.

The VMT is a multi-stage pump, mounted in a barrel from which it takes suction. Vertical construction reduces floor space requirements, simplifies installation problems. Base of pump is at ground level while length of barrel below is determined by npsh requirement. This eliminates necessity for raising suction vessel or excavating for an elaborate pump pit, permits pumping from a suction vessel set at or near ground level. Standard construction: cast iron, bronze fitted case; chrome steel shaft and shaft sleeve.

FOUR STANDARD SIZES

8", 10", 12", 14" barrels
Capacities: to 1000 gpm
Heads: to 250 psi
Temperatures: to 250° F.

SPECIAL DESIGNS

Capacities: to 5000 gpm
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Cook, A. D., Inc., Lawrenceburg, Ind.
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Elliott Co., Jeannette, Pa.
Fairbanks, Morse Co., 600 S. Michigan Ave., Chicago, Ill.
Hayward-Tyler & Co., Ltd., Luton (Bedfordshire), England.
Layne & Bowler, Inc., Memphis, Tenn.
Leyman Mfg. Corp., McGowan Pump Div., Cincinnati, Ohio
Pacific Pumps, Inc., Huntington Park, Calif.
Peerless Pump Div., Los Angeles 31, Calif.
Pomona Pump Div. of Joshua Hendy Iron Works, Pomona, Calif.
Weir, G. & J., Ltd., Glasgow, Scotland
Worthington Pump & Machinery Corp., Harrison, N. J.

PUMPS—Vacuum:

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American-Marsh Pumps, Inc., Battle Creek, Mich.
Beach-Russ Co., 50 Church St., New York City
Byron Jackson Co., P.O. Box 2017, Terminal Annex, Los Angeles, Calif.
Central Scientific Co., 1700 W. Irving Park Blvd., Chicago, Ill.
Nash Engr. Co., South Norwalk, Conn.
National Steam Pump Co., Upper Sandusky, Ohio
Oliver United Filters, 33 W. 42nd St., New York, N. Y.
Peerless Pump Div., Los Angeles 31, Calif.
Pennsylvania Pump & Compressor Co., Easton, Pa.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Precision Scientific Co., 1750 N. Springfield Ave., Chicago, Ill.
Stoelting, C. H., Co., 424 N. Homan Ave., Chicago 24, Ill.
Union Steam Pump Co., Battle Creek, Mich.
Weir, G. & J., Ltd., Glasgow, Scotland
Worthington Pump & Machinery Corp., Harrison, N. J.

PURIFIERS—Oil:

Briggs Clarifier Co., 1339 Wisconsin St., Washington, D. C.
Burt Manufacturing Co., The, Akron, Ohio
DeLaval Steam Turbine Co., Trenton, N. J.
De Luxe Products Corp., La Porte, Ind.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Hilliard Corp., Elmira, N. Y.

Luber-Finer, Inc., 2514 S. Grand Ave., Los Angeles 7, Calif.
Nugent, Wm. W., Co., 410 N. Hermitage, Chicago, Ill.
Permutit Co., 330 W. 42nd St., New York City
Petroleum Engineering, Inc., Tulsa, Okla.
Simplex Co., The, East Moline, Ill.
Skinner Purifiers, Inc., 1500 Trombly, Detroit, Mich.
Winslow Engineering Co., 4069 Hollis St., Oakland 8, Calif.
Worthington Pump & Machinery Corp., Harrison, N. J.
Youngstown Miller Co., Sandusky, Ohio

PURGERS—Foul Gas or Refrigerant:
Armstrong Machine Works, Three Rivers, Mich.

PYROMETERS:
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brown Instrument Div., Wayne and Windrum Ave., Philadelphia, Pa.
Englehard, Charles, Inc., Newark, N. J.
Foxboro Co., Foxboro, Mass.
Illinois Testing Lab., Inc., 420 N. La Salle St., Chicago 10, Ill.
Kent, George, Ltd., Luton, Bedfordshire, England
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Richards Co., The, Arkley S., Newton Highlands, Mass.
Schaar & Co., 754 W. Lexington, Chicago, Ill.

PYROMETER TUBES—See TUBES, Pyrometer:

REBOILERS:
American Locomotive Co., Alco Products Div., 30 Church St., New York City
Beaird Corp., J. B., Shreveport, La.
Brown Finiube Co., Elyria, Ohio
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Coy Co., Jos. A., Inc., Tulsa, Okla.
Devine, J. P., Manufacturing Co., Mount Vernon, Ill.
Engineers & Fabricators, Inc., Houston, Tex.
Farrar & Trefts, Inc., Buffalo, N. Y.
Foster Wheeler Corp., 165 Broadway, New York City
Gasoline Plant Construction Corp., Corpus Christi, Tex.
Graham Mfg. Co., Inc., 415 Lexington Ave., New York 17, N. Y.
Griscom-Russell Co., The., 285 Madison Ave., New York City
Head, Wrightson & Co., Ltd., London S.W.I., England
Hudson Engineering Co., Houston, Tex.
National Carbon Co., Inc., Cleveland, Ohio
Nooter, John, Boiler Works Co., St. Louis, Mo.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Petro-Chem Development Co., Inc., 120 E. 41st St., New York City
Southwest Welding & Mfg. Co., Alhambra, Calif.
Southwestern Engineering Co., Los Angeles, Calif.
Standard Steel Corp., 5001 S. Boyle Ave., Los Angeles 11, Calif.
Struthers-Wells Corp., Warren, Pa.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Western Supply Co., Tulsa, Okla.
Whitlock Mfg. Co., The, Hartford, Conn.

RECORDERS—Combustion:
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., 4488 Wayne Ave., Philadelphia 44, Pa.
Davis Emergency Equipment Co., Inc., Newark, N. J.
Foxboro Co., Foxboro, Mass.
Hayes, A. M., Corp., Michigan City, Ind.
Kent, George, Ltd., Luton, Bedfordshire, England
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Natural Gas Equipment, Inc., 714 W. Olympic Blvd., Los Angeles, Calif.
Republic Flow Meters Co., Chicago 47, Ill.
Simplex Valve & Meter Co., 68th and Upland, Philadelphia, Pa.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.

RECORDERS—CO_2:
Brown Instrument Div., Wayne and Windrum Ave., Pittsburgh, Pa.
Cambridge Instrument Co., Inc., 3732 Grand Central Terminal, New York City
Davis Emergency Equipment Co., Inc., Newark, N. J.
Englehard, Charles, Inc., Newark, N. J.
Hays, A. M., Corp., Michigan City, Ind.
Kent, George, Ltd., Luton, Bedfordshire, England
McDonald, B. F., Co., 5112 S. Hoover St., Los Angeles 37, Calif.
Permutit Co., 330 W. 42nd St., New York City
Republic Flow Meters Co., Chicago 47, Ill.

RECORDERS—Differential:
American Meter Co., Inc., 60 E. 42nd St., New York 17, N. Y.
American Recording Chart Co., 3113 E. 11th St., Los Angeles, Calif.
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., The, 4488 Wayne Ave., Philadelphia 44, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Foxboro Co., Foxboro, Mass.
Hayes, A. M., Corp., Michigan City, Ind.
Mason Neilan Regulator Co., Boston, Mass.
Moore Products Co., Philadelphia, Pa.
Pittsburgh Equitable Meter Co., Homewood, Pittsburgh, Pa.
Republic Flow Meters Co., Chicago 47, Ill.
Simplex Valve & Meter Co., 68th and Upland, Philadelphia, Pa.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Co., Rochester, N. Y.

RECORDERS—Electric:
American Automatic Electric Sales Co., 1033 W. Van Buren, Chicago, Ill.
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Brooks Rotameter Co., Lansdale, Pa.
Brown Instrument Div., Wayne and Roberts Aves., Philadelphia, Pa.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Esterline Angus Co., Indianapolis, Ind.
Foxboro Co., Foxboro, Mass.
General Electric Co., Schenectady, N. Y.
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
%Proportioneers%, Inc., Providence, R. I.
Republic Flow Meters Co., Chicago 47, Ill.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.

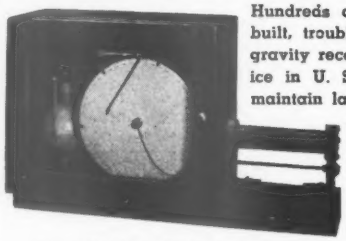
RECORDERS—Flow:
American Meter Co., 60 East 42nd St., New York City
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brooks Rotameter Co., Lansdale, Pa.
Brown Instrument Div., Wayne and Roberts Aves., Philadelphia, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Fischer & Porter Co., Hatboro, Pa.
Foxboro Co., Foxboro, Mass.
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Mason Neilan Regulator Co., Boston, Mass.
Moore Products Co., Philadelphia, Pa.
%Proportioneers%, Inc., Providence, R. I.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.

RECORDERS—Humidity:
Bristol Co , The, Waterbury, Conn.
Brown Instrument Div., Wayne and Roberts Ave., Philadelphia, Pa.
Foxboro Co., Foxboro, Mass.
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
Mason Neilan Regulator Co., Boston, Mass.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trerice, H. O., Co., Detroit, Mich.

RECORDERS—Liquid Level:
American Meter Co., 60 East 42nd St., New York City
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bristol Company, The, Waterbury, Conn.
Brown Instrument Div., Wayne and Roberts Aves., Philadelphia, Pa.
Foxboro Co., Foxboro, Mass.
Kent, George, Ltd., Luton, Bedfordshire, England
Mason Neilan Regulator Co., Boston, Mass.
Republic Flow Meters Co., Chicago 47, Ill.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Tokheim Co., Cedar Rapids, Iowa

RECORDERS—Pressure:
American Meter Co., 60 East 42nd St., New York City
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brown Instrument Div., Wayne and Roberts Aves, Philadelphia, Pa.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Crosby Steam Gage & Valve Co., 165 Broadway, New York City
Electro Products Labs., Inc., 549 W. Randolph, Chicago 6, Ill.
Foxboro Co., Foxboro, Mass.
Kent, George, Ltd., Luton, Bedfordshire, England

Specify Arcco-Anubis Gravity Recorders



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Arcco-Anubis Liquid Gravitemeter

Arcco-Anubis Gas Gravitometer

AMERICAN RECORDING CHART CO.
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Moore Products Co., Philadelphia, Pa.
Republic Flow Meters Co., Chicago 47, Ill.
Taylor Instrument Companies, Rochester, N. Y.
Trerice, H. O., Co., Detroit, Mich.
Wheelco Instruments Co., Harrison and Peoria Sts., Chicago, Ill.

RECORDERS—Specific Gravity:
American Meter Co., 60 East 42nd St., New York City
American Recording Chart Co., 3113 E. 11th St., Los Angeles, Calif.
Brown Instrument Div., Philadelphia, Pa.
Foxboro Co., Foxboro, Mass.
Kent, George, Ltd., Luton, Bedfordshire, England
Moore Products Co., Philadelphia, Pa.
Refinery Supply Co., The, 621 E. 4th St., Tulsa, Okla.
Republic Flow Meters Co., Chicago 47, Ill.
Schutte & Koerting Co., Philadelphia, Pa.

RECORDERS—Temperature:
Bailey Meter Co., 1038 Ivanhoe Road, Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brown Instrument Div., Wayne and Roberts Aves., Philadelphia, Pa.
Builders-Providence, Inc., Div. of Builders Iron Foundry, Providence, R. I.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Englehard, Charles, Inc., Newark, N. J.
Foxboro Co., Foxboro, Mass.
Kent, George, Ltd., Luton, Bedfordshire, England
Leeds & Northrup Co., Philadelphia 44, Pa.
Marsh, Jas. P., Corp., 2073 Southport, Chicago, Ill.
Mason Neilan Regulator Co., Boston, Mass.
Moore Products Co., Philadelphia, Pa.
Palmer Co., The, 2501 Norwood Ave., Cincinnati 12, Ohio
Powers Regulator Co., 2720 Greenview Ave., Chicago, Ill.
Refinery Supply Co., Tulsa, Okla.
Republic Flow Meters Co., Chicago 47, Ill.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Tokheim Co., Cedar Rapids, Iowa
Trerice, H. O., Co., Detroit, Mich.

RECORDERS—Wet and Dry Bulb:
Bristol Co., The, Waterbury, Conn.
Brown Instrument Div., Wayne and Roberts Aves., Philadelphia, Pa.
Foxboro Co., Foxboro, Mass.
Leeds & Northrup Co., Philadelphia 44, Pa.
Mason Neilan Regulator Co., Boston, Mass.
Powers Regulator Co., 2720 Greenview Ave., Chicago, Ill.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trerice, H. O., Co., Detroit, Mich.

REDUCERS—Pipe:
Chase Brass & Copper Co., Waterbury, Conn.
Clow, James B., & Sons, 201 N. Talman, Chicago, Ill.
Grinnell Co., Inc., Providence, R. I.
Midwest Piping & Supply Co., Inc., St. Louis, Mo.
Norris, W. C., Mfgr., Inc., Tulsa, Okla.
Penn Mfg. Corp., Washington, Pa.
Texas Pipe Bending Co., Houston, Tex.
Tube Turns, Louisville 1, Ky.
Walworth Co., 60 E. 42nd St., New York City
Youngstown Welding & Engineering Co., The, Youngstown, Ohio

REFLEX GAUGES—See GAUGES, Reflex:

REFINERY PROCESSES—See PROCESSES, Refinery:

REFRACTORIES—See Specific Products:

REFRACTORIES:
Armstrong Cork Co., Lancaster, Pa.
Atlas Lumnite Cement Co., The, 135 E. 42nd St., New York City
Babcock & Wilcox Co., 85 Liberty St., New York City
Bigelow-Liptak Corp., Detroit, Mich.
Chicago Fire Brick Co., 1461 Elston Ave., Chicago 22, Ill.
General Refractories Co., Philadelphia, Pa.
Green, A. P., Fire Brick Co., Mexico, Mo.
Harbison-Walker Refractories Co., 1800 Farmers Bank Bldg., Pittsburgh, Pa.
Johns-Manville, 22 E. 40th St., New York City
Kellogg Co., The M. W., 225 Broadway, New York City
Laclede Christy Clay Products Co., St. Louis, Mo.
Mexico Refractories Co., Mexico, Mo.
Plibrico Jointless Firebrick Co., Chicago, Ill.
Quigley Co., Inc., 527 Fifth Ave., New York City
Ruberoid Co., 500 5th Ave., New York City
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Stein, John G., & Co., Ltd., Bonnybridge, Scotland.
U. S. Stoneware Co., Akron, Ohio

REFRACTORY CEMENT—See CEMENT, Refractory

REFRIGERATING MACHINERY:
Carrier Corp., New York 17, N. Y.
Frick Co., Waynesboro, Pa.
Ingersoll-Rand Co., Phillipsburg, N. J.
King Refrigeration Co., Toledo 2, Ohio
Master Vibrating Co., Dayton, Ohio
Vogt, Henry, Machine Co., Louisville, Ky.
Worthington Pump & Machinery Corp., Harrison, N. J.
York Corp., York, Pa.

REGULATORS—Air Operated:
Atlas Valve Co., 276 South St., Newark, N. J.
Bailey Meter Co., 1038 Ivanhoe Road, Cleveland, Ohio
Bristol Co., The, Waterbury, Conn.
Brooks Rotameter Co., Lansdale, Pa.
Brown Instrument Co., The, 4488 Wayne Ave., Philadelphia 44, Pa.
Cash, A. W., Co., Decatur, Ill.
Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
D'Este Div. Am. Chain & Cable Co., Inc., Reading, Pa.
Fischer & Porter Co., Hatboro, Pa.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., Newark, N. J.
Foxboro Co., Foxboro, Mass.
General Controls Co., Glendale, Calif.
Grove Regulator Co., Oakland, Calif.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Kent, George, Ltd., Luton, Bedfordshire, England
Kieley & Mueller, Inc., North Bergen, N. J.
Leslie Co., Lyndhurst, N. J.
McAlear Manufacturing Co., 1901 S. Western Ave., Chicago, Ill.
Mason Neilan Regulator Co., Boston, Mass.
Mercoid Corp., 4201 Belmont, Chicago, Ill.
Moore Products Co., Philadelphia, Pa.
Penn Electric Switch Co., Goshen, Ind.
Pittsburgh Equitable Meter Div., Rockwell Mfg. Co., Pittsburgh 8, Pa.
Republic Flow Meter Co., Chicago 47, Ill.
Reynolds Gas Regulator Co., Anderson, Ind.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Spence Engineering Co., Inc., Walden, N. Y.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trerice, H. O., Co., Detroit, Mich.
Webster Engineering Co., Tulsa, Okla.

REGULATORS—Air Pressure—See REGULATORS, Pressure:

REGULATORS—Back Pressure:
Acme Regulator Co., Tulsa, Okla.
American Meter Co., 60 East 42nd St., New York City
Atlas Valve Co., 276 South St., Newark, N. J.
Belfield, H., Co., Philadelphia, Pa.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., The, 4488 Wayne Ave., Philadelphia 44, Pa.
Chaplin-Fulton Mfg. Co., 28-40 Penn Ave., Pittsburgh, Pa.
Cook Electric Co., 2700 N. Southport Ave., Chicago 14, Ill.
Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Farris Engineering Co., Palisades Park, N. J.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., Newark, N. J.
Foxboro Co., Foxboro, Mass.
General Controls Co., Glendale, Calif.
Grove Regulator Co., Oakland, Calif.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Kieley & Mueller, Inc., North Bergen, N. J.
McAlear Manufacturing Co., 1901 S. Western, Chicago, Ill.
Mason Neilan Regulator Co., Boston, Mass.
Natural Gas Equipment, Inc., 714 W. Olympic Blvd., Los Angeles, Calif.
Penn Electric Switch Co., Goshen, Ind.
Reading-Pratt & Cady Div., American Chain & Cable Co., Inc., Reading, Pa.
Republic Flow Meters Co., Chicago 47, Ill.
Rockwell Mfg. Co., Pittsburgh 8, Pa.
R-S Products Corp., 100 Berkley St., Philadelphia, Pa.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Vapor Recovery Systems Co., The, Compton, Calif.

REGULATORS—Boiler Fuel:
Automatic Temperature Control Co., Inc., 34 E. Logan St., Philadelphia 44, Pa.

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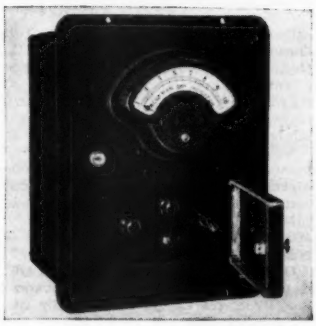

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Chaplin-Fulton Mfg. Co., 28-40 Penn Ave., Pittsburgh, Pa.
Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
D'Este Div. Am. Chain & Cable Co., Inc., Reading, Pa.
Eclipse Fuel Engineering Co., Rockford, Ill.
Faber Engineering Co., Westmoreland and Amber Sts., Philadelphia, Pa.
Farris Engineering Co., Palisades Park, N. J.
Fulton Sylphon Co., Knoxville, Tenn.
General Controls Co., Glendale, Calif.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
McAlear Manufacturing Co., 1901 S. Western, Chicago, Ill.
McDonnell & Miller, Wrigley Bldg., Chicago, Ill.
Mercoid Corp., 4201 Belmont, Chicago, Ill.
Mueller Co., Decatur, Ill.
Natural Gas Equipment, Inc., 714 W. Olympic Blvd., Los Angeles, Calif.
Republic Flow Meters Co., Chicago 47, Ill.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Taylor Instrument Companies, Rochester, N. Y.

REGULATORS—Damper:
Atlas Valve Co., 276 South St., Newark, N. J.
Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Bailey Meter Co., 1038 Ivanhoe Road, Cleveland, Ohio
Brown Instrument Co., The, 4488 Wayne Ave., Philadelphia 44, Pa.
Cash, A. W., Co., Decatur, Ill.
Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
Engineering Co., 75 West St., New York City
Faber Engineering Co., Westmoreland and Amber Sts., Philadelphia, Pa.
Fulton Sylphon Co., Knoxville, Tenn.
General Controls Co., Glendale, Calif.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Hays, A. M., Corp., Michigan City, Ind.
Kieley & Mueller, Inc., North Bergen, N. J.
Mason Neilan Regulator Co., Boston, Mass.
Mercoid Corp., 4201 Belmont, Chicago, Ill.
Minneapolis - Honeywell Regulator Co., Minneapolis, Minn.
Moore Products Co., Philadelphia, Pa.
Natural Gas Equipment, Inc., 714 W. Olympic Blvd., Los Angeles, Calif.
Republic Flow Meters Co., Chicago 47, Ill.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Ruggles Klingemann Mfg. Co., Salem, Mass.
Sarco Co., Inc., 475 Fifth Ave., New York City
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.

REGULATORS—Feed Water:
Atlas Valve Co., 276 South St., Newark, N. J.
Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Bailey Meter Co., 1038 Ivanhoe Road, Cleveland, Ohio.
Belfield, H., Co., Philadelphia, Pa.
Brown Instrument Co., The, 4488 Wayne Ave., Philadelphia 44, Pa.
Chaplin-Fulton Mfg. Co., 28-40 Penn Ave., Pittsburgh, Pa.
Clark Manufacturing Co., 1830 E. 38th, Cleveland 14, Ohio
Cook Electric Co., 2700 N. Southport, Chicago 14, Ill.
Eclipse Fuel Engineering Co., Rockford, Ill.
Farris Engineering Co., Palisades Park, N. J.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., Newark, N. J.
General Controls Co., Glendale, Calif.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Inferno Co., Shreveport, La.
Kieley & Mueller, N. Bergen, N. J.
Lumenite Electronic Co., 407 S. Dearborn St., Chicago 5, Ill.
McAlear Manufacturing Co., 1901 S. Western, Chicago, Ill.
Mason Neilan Regulator Co., Boston, Mass.
Mercoid Corp., 4201 Belmont, Chicago, Ill.
Monsanto Chemical Co., St. Louis, Mo.
Natural Gas Equipment, Inc., 714 W. Olympic Blvd., Los Angeles, Calif.
Northern Equipment Co., Erie, Pa.
Republic Flow Meters Co., Chicago 47, Ill.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Squires, C. E., Co., Cleveland, Ohio
Swartwout Co., The, 18511 Euclid Ave., Cleveland, Ohio
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Williams Gauge Co., Pittsburgh 12, Pa.
Wright-Austin Co., 315 W. Woodbridge, Detroit, Mich.

REGULATORS — Gas and Air Pressure — See REGULATORS, Pressure:

REGULATORS—Liquid Level — See CONTROLLERS, Liquid Level:

REGULATORS—Liquid Petroleum Gas:
Acme Regulator Co., Tulsa, Okla.
American Meter Co., 60 E. 42nd St., New York 17, N. Y.
Belfield Co., H., Philadelphia, Pa.
Bastian Blessing Co., 4201 W. Peterson, Chicago 30, Ill.
Clark Manufacturing Co., The, 1830 E. 38th, Cleveland 14, Ohio
D'Este Div. Am. Chain & Cable Co., Reading, Pa.
Farris Engineering Co., Palisades Park, N. J.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., Newark, N. J.
General Controls Co., Glendale, Calif.
Grove Regulator Co., Oakland, Calif.
Kieley & Mueller, Inc., North Bergen, N. J.
McAlear Manufacturing Co., 1901 S. Western, Chicago, Ill.
Mason Neilan Regulator Co., Boston, Mass.
Pittsburgh Equitable Meter Co., Homewood, Pittsburgh, Pa.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Vapor Recovery Systems Co., The, Compton, Calif.
Weatherhead Co., 300 E. 131st St., Cleveland 8, Ohio

REGULATORS—Oxygen and Acetylene Pressure:
Air Reduction Sales Co., 60 E. 42nd St., New York City
Alexander Milburn Co., Baltimore, Md.
American Meter Co., 60 E. 42nd St., New York 17, N. Y.
Bastian Blessing Co., 4201 W. Peterson, Chicago 30, Ill.
D'Este Div. Am. Chain & Cable Co., Inc., Reading, Pa.
Foster Engineering Co., Newark, N. J.
Grove Regulator Co., Oakland, Calif.
Linde Air Products Co., The, 30 E. 42nd St., New York City
National Cylinder Gas Co., 205 W. Wacker, Chicago, Ill.
Pittsburgh Equitable Meter Co., Homewood, Pittsburgh, Pa.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Smith Welding Equipment Corp., Minneapolis, Minn.
Victor Equipment Co., 844 Folsom St., San Francisco 7, Calif.
Walls Chemical Div., Liquid Carbonic Co., 3100 S. Kedzie, Chicago 23, Ill.

REGULATORS—Pressure:
Acme Regulator Co., Tulsa, Okla.
American District Steam Co., N. Tonawanda, N. Y.
American Meter Co., 60 E. 42nd St., New York City
Alexander Milburn Co., Baltimore, Md.
Atlas Valve Co., 276 South St., Newark, N. J.
Automatic Temperature Control Co., Inc., 34 E. Logan St., Philadelphia 44, Pa.
Bailey Meter Co., 1038 Ivanhoe Rd., Cleveland, Ohio
Bastian-Blessing, 4201 W. Peterson, Chicago 30, Ill.
Belfield, H., Co., Philadelphia, Pa.
Brown Instrument Co., The, 4488 Wayne Ave., Philadelphia 44, Pa.
Cash, A. W., Co., Decatur, Ill.
Chaplin-Fulton Mfg. Co., 28-40 Penn Ave., Pittsburgh, Pa.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Clark Mfg. Co., The, 1830 E. 38th, Cleveland 14, Ohio
Cook Electric Co., 2700 N. Southport Ave., Chicago 14, Ill.
Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
D'Este Div., Am. Chain & Cable Co., Inc., Reading, Pa.
DeVilbiss Co., Toledo, Ohio
Farris Engineering Co., Palisades Park, N. J.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., Newark, N. J.
Fulton Sylphon Co., The, Knoxville, Tenn.
General Controls Co., Glendale, Calif.
General Regulator Corp., 165 Broadway, New York 6, N. Y.
Grove Regulator Co., Oakland, Calif.
Illinois Engineering Co., 21st and Racine, Chicago, Ill.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Kent, George, Ltd., Luton, Bedfordshire, England
Kieley & Mueller, Inc., North Bergen, N. J.
Leslie Co., Lyndhurst, N. J.
McAlear Manufacturing Co., 1901 S. Western, Chicago, Ill.
McDonnell & Miller, Wrigley Bldg., Chicago, Ill.
Mason Neilan Regulator Co., Boston, Mass.
Meletron Corp., Los Angeles 38, Calif.
Mercoid Corp., 4201 Belmont, Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
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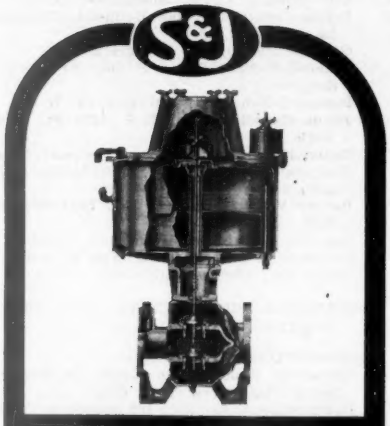
Republic Flow Meters Co., Chicago 47, Ill.
Reynolds Gas Regulator Co., Anderson, Ind.
Rockwell Mfg. Co., Pittsburgh 8, Pa.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Ruggles Klingemann Mfg. Co., Salem, Mass.



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Taylor Instrument Companies, Rochester, N. Y.
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Vapor Recovery Systems Co., The, Compton, Calif.
Wheelco Instruments Co., Harrison and Peoria Sts., Chicago, Ill.

REGULATORS—Pump—See GOVERNORS, Pump:

REGULATORS — Steam Pressure — See REGULATORS, Pressure:

REGULATORS — Temperature — See CONTROLLERS, Temperature:

REGULATORS—Vacuum:
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Bristol Co., The, Waterbury, Conn.
Brown Instrument Co., The, 4488 Wayne Ave., Philadelphia 44, Pa.
Cash, A. W., Co., Decatur, Ill.
Chaplin-Fulton Mfg. Co., 28-40 Penn Ave., Pittsburgh, Pa.
Cook Electric Co., 2700 N. Southport, Chicago 14, Ill.
Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
D'Este Div., Am. Chain & Cable Co., Inc., Reading, Pa.
Enardo Foundry & Mfg. Co., Tulsa, Okla.
Farris Engineering Co., Palisades Park, N. J.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., Newark, N. J.
Foxboro Co., Foxboro, Mass.
Fulton Sylphon Co., Knoxville, Tenn.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Kieley & Mueller, Inc., North Bergen N. J.
McAlear Mfg. Co., 1901 S. Western, Chicago, Ill.
Mason Neilan Regulator Co., Boston, Mass.
Mercoid Corp., 4201 Belmont, Chicago, Ill.
Moore Products Co., Philadelphia, Pa.
Natural Gas Equipment, Inc., 714 W. Olympic Blvd., Los Angeles, Calif.
Northern Equipment Co., Erie, Pa.
Penn Electric Switch Co., Goshen, Ind.
Pittsburgh Equitable Meter Co., Homewood, Pittsburgh, Pa.
Republic Flow Meters Co., Chicago 47, Ill.
Taylor Instrument Co., Rochester, N. Y.
Trerice, H. O., Co., Detroit, Mich.
Vapor Recovery Systems Co., The, Compton, Calif.
Wallace & Tiernan Products, Inc., Belleville, N. J.

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Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
Enardo Foundry & Machine Co., Tulsa, Okla.
Farris Engineering Co., Palisades Park, N. J.
Natural Gas Equipment, Inc., 714 W. Olympic Blvd., Los Angeles, Calif.
Shand & Jurs Co., Berkeley, Calif.
Vapor Recovery Systems Co., The, Compton, Calif.

REGULATORS—Voltage:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Electric Machinery Mfg. Co., Minneapolis, Minn.
Federal Telephone & Radio Corp., 67 Broad St., New York City
General Electric Co., Schenectady, N. Y.

RELAYS—Electric:
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Automatic Switch Co., 41 E. 11th St., New York City
Automatic Temperature Control Co., 34 E. Logan St., Philadelphia 44, Pa.
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Brown Instrument Co., The, 4488 Wayne Ave., Philadelphia 44, Pa.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio
Cook Electric Co., 2700 N. Southport, Chicago 14, Ill.
Cutler Hammer, Inc., Milwaukee, Wis.
Federal Telephone & Radio Corp., 67 Broad St., New York City
General Controls Co., Glendale, Calif
General Electric Co., Schenectady, N. Y.
Guardian Electric Co., 1623 W. Walnut St., Chicago, Ill.
Mercoid Corp., 4201 Belmont, Chicago, Ill.
Nelson Electric Mfg. Co., Tulsa, Okla.
Penn Electric Switch Co., Goshen, Ind.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Weston Electrical Instrument Corp., Newark, N. J.
White Rodgers Electric Co., St. Louis, Mo.

RESPIRATORS:
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Boyer-Campbell Co., 6540 Antoine St., Detroit, Mich.
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Davis Emergency Equipment Co., Inc., Newark, N. J.
DeVilbiss Co., Toledo, Ohio
Goodrich, B. F., Co., Akron, Ohio
Mine Safety Appliances Co., Pittsburgh, Pa.
Sellstrom Mfg. Co., 615 N. Aberdeen, Chicago, Ill.

RETORTS:
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Bethlehem Foundry & Machine Co., Bethlehem, Pa.
Carborundum Co., Niagara Falls, N. Y.
General American Transportation Corp., 135 S. La Salle, Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
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Lancaster Iron Works, Lancaster, Pa.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Struthers-Wells, Warren, Pa.
Youngstown Welding & Engineering Co., Youngstown, Ohio

RETURN BENDS—See BENDS, Return:

RETURN BENDS—Welding: See FITTINGS, Welding:

RETURN HEADERS — See HEADERS, Return:

ROCK WOOL — See INSULATION, Rock Wool:

RODS — Welding: See WELDING ELECTRODES and RODS:

ROOFS—Furnace:
Bigelow-Liptak Corp., 2842 W. Grand Blvd., Detroit, Mich.
Detrick, M. H., Co., 111 W. Washington St., Chicago 2, Ill.
Furnace Economy Co., 201 N. Wells St., Chicago, Ill.
Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh 22, Pa.
Laclede Christy Clay Products Co., St. Louis, Mo.
North American Refractories Co., National City Bldg., Cleveland 14, Ohio
Plibrico Jointless Firebrick Co., Chicago, Ill.
Standard Asbestos Mfg. & Insulating Co., Kansas City, Mo.
Sullivan Co., The, Memphis, Tenn.

ROOFS—Tank, Breather:
Chicago Bridge & Iron Co., 332 S. Michigan, Chicago, Ill.
General American Transportation Corp., 135 S. La Salle, Chicago, Ill.
Graver Tank & Mfg. Co., E. Chicago, Ind.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.

ROOFS—Tank, Expansion:
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General American Transportation Corp., 135 S. La Salle, Chicago, Ill.
Graver Tank & Mfg. Co., Inc., East Chicago, Ind.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Pittsburgh Plate Glass Co., Pittsburgh, Pa.

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Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
General American Transportation Corp., 135 S. La Salle, Chicago, Ill.
Graver Tank & Mfg. Co., E. Chicago, Ind.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.

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New Bedford Cordage Co., 233 Broadway, New York, N. Y.
Plymouth Cordage Co., North Plymouth, Mass.
St. Louis Cordage Mills Co., Eleventh and Soulard Sts., St. Louis 4, Mo.
Tubbs Cordage Co., 200 Bush St., San Francisco 4, Calif.
Wall Rope Works, 48 S. Street, New York, N. Y.

ROPE WIRE—See WIRE ROPE:

ROTAMETERS:
Brooks Rotameter Co., Lansdale, Pa.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Fischer & Porter Co., Hatboro, Pa.
Refinery Supply Co., The, 621 E. 4th St., Tulsa, Okla.
Schutte & Koerting Co., Philadelphia, Pa.

ROTARY PUMPS—See PUMPS, Rotary:

SADDLES—Elliptical Manhole:
Bethlehem Steel Co., Bethlehem, Pa.
Lenope Hydraulic Pressing & Forging Co., West Chester, Pa.
Lukens Steel Co., Coatesville, Pa.

SADDLES — Meter-Leveling: See METER LEVELING, Saddles:

SADDLES—Pipe:
American Meter Co., Inc., 60 E. 42nd St., New York 17, N. Y.
Clow, James B., & Sons, 201 N. Talman, Chicago, Ill.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Dresser Mfg. Co., Bradford, Pa.
Flori Pipe Co., St. Louis, Mo.
Gaso Pump & Burner Mfg. Co., Tulsa, Okla.
Grinnell Co., Inc., Providence, R. I.
Hadfields, Ltd., London, England
National Machine Works, 1559 North Sheffield, Chicago, Ill.
Norris, W. C., Mfgr., Inc., Tulsa, Okla.
Skinner, M. B., Co., South Bend, Ind.
Standard Steel Corp., Los Angeles, Calif.
Texas Pipe Bending Co., Houston, Tex.
Walworth Co., 60 E. 42nd St., New York City

SADDLES—Welding, Pipe: See FITTINGS, Welding:

SAFETY EQUIPMENT—See Specific Products:

SAFETY HEADS:
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Jarecki Mfg. Co., Chemical Bldg., St. Louis, Mo.
Zurn, J. A., Mfg. Co., 1801 Pittsburgh Ave., Erie, Pa.

SAFETY SHOES—See SHOES, Safety Toe:

SALT-EXTRACTION PLANTS—See PLANTS, Desalting:

SAWS—Refractory:
Clipper Mfg. Co., The, St. Louis, Mo.

SCALE-REMOVING CHEMICALS—See CHEMICALS, Scale-Removing:

SCALE or SLUDGE REMOVING SERVICE:
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SCALES — Fluid Pressure: See GAUGE-TESTING EQUIPMENT:

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Cambridge Wire Cloth Co., Cambridge, Md.
Michigan Wire Cloth Co., 2080 Howard, Detroit, Mich.
Multi-Metal Wire Cloth Co., Inc., Bronx, New York City
Newark Wire Cloth Co., Newark, N. J.

SCREENS—Filter:
Cambridge Wire Cloth Co., Cambridge, Md.
Chase Brass & Copper Co., Waterbury, Conn.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Hendrick Mfg. Co., Carbondale, Pa.
Jelliff, C. O., Mfg. Corp., Southport, Conn.
Michigan Wire Cloth Co., 2100 Howard, Detroit, Mich.
Newark Wire Cloth Co., Newark, N. J.

SCREENS—Wire:
Audubon Wire Cloth Corp., Castor Ave. and Richmond St., Philadelphia, Pa.
Cambridge Wire Cloth Co., Cambridge, Md.
Hendrick Mfg. Co., Carbondale, Pa.
Jeffrey Mfg. Co., The, Columbus, Ohio
Michigan Wire Cloth Co., 2100 Howard, Detroit, Mich.
Multi-Metal Wire Cloth Co., Inc., Bronx, New York City
Newark Wire Cloth Co., Newark, N. J.

Refinery Supply Co., The, 621 E. 4th St., Tulsa, Okla.
Tyler, W. S., Co., 3615 Superior Ave., Cleveland, Ohio
Wickwire Spencer Steel Co., 500 Fifth Ave., New York 18, N. Y.

SCRUBBERS—Gas:
American Locomotive Co., Alco Products Div., 30 Church St., New York City
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Clayton, Son & Co., Ltd., Leeds, England
Fluor Corp., Ltd., Box 7030, Los Angeles, Calif.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Hudson Engineering Co., Houston, Tex.
Knight, Maurice A., Co., Akron, Ohio
Lancaster Iron Works, Lancaster, Pa.
National Carbon Co., Inc., Cleveland, Ohio
Nooter, John, Boiler Works Co., St. Louis, Mo.
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Peabody Engineering Corp., 580 Fifth Ave., New York City
Peerless Mfg. Co., Dallas 1, Tex.
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Pollock, William B., Co., Youngstown, Ohio
Pritchard, J. F., & Co., Fidelity Towers Bldg., Kansas City, Mo.
Southwestern Engineering Co., Los Angeles, Calif.
Stacey Mfg. Co., The, Cincinnati, Ohio
Standard Steel Corp., 5001 S. Boyle Ave., Los Angeles 11, Calif.
Stearns-Roger Mfg. Co., Denver, Colo.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vapor Recovery Systems Co., The, Compton, Calif.

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Chicago Rawhide Co., Chicago, Ill.
Cook Electric Co., 2700 N. Southport, Chicago 14, Ill.
Double Seal Ring Co., Fort Worth, Tex.
Durametallic Corp., Kalamazoo, Mich.
Econo-Vent Corp., 1005 Belmont, Chicago, Ill.
Garlock Packing Co., Palmyra, N. Y.
Goodall Rubber Co., 5 S. 36th St., Philadelphia, Pa.
Ingersoll-Rand Co., Phillipsburg, N. J.
Johns-Manville Corp., 22 E. 40th St., New York City
National Carbon Co., Inc., Cleveland, Ohio
Phoenix Mfg. Co., 332 S. Michigan, Chicago 4, Ill.
Rector Well Equipment Co., Fort Worth, Tex.
Saginaw Bearing Co., Saginaw, Mich.
Victor Mfg. & Gasket Co., 5750 W. Roosevelt Rd., Chicago, Ill.

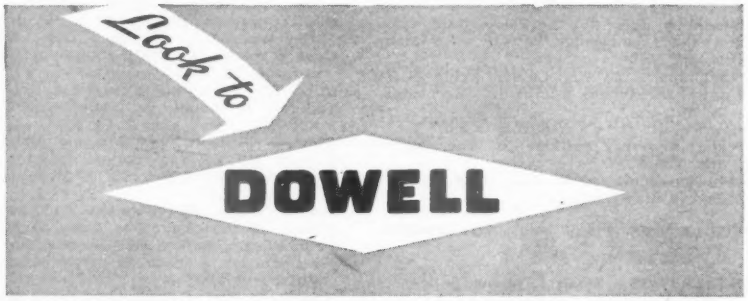
SECTIONAL CONDENSERS — See CONDENSERS, Sectional:

SEPARATORS—Acid Sludge:
Chemical Construction Corp., 30 Rockefeller Plaza, New York City
DeLaval Separator Co., 165 Broadway, New York City
Southwestern Engineering Co., Los Angeles, Calif.

SEPARATORS—Centrifugal:
Clark Mfg. Co., The, 1830 E. 38th, Cleveland 14, Ohio
Sharples Corp., 23rd and Westmoreland Sts., Philadelphia, Pa.

SEPARATORS—Gasoline and Water:
Lewis, Warner, Co., 817 N. Lewis Place, Tulsa, Okla.
Flotrol Systems, Inc., 385 Gerard Ave., New York 51, N. Y.

SEPARATORS—Oil and Gas:
American District Steam Co., N. Tonawanda, N. Y.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Burt Tank, Separator & Oil Treating Corp., Wichita Falls, Tex.
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.



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Fluor Corp., Ltd., Box 7030 Los Angeles 22, Calif.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Hudson Engineering Co., Houston, Tex.
Illinois Engineering Co., 21st and Racine, Chicago, Ill.
M & V Tank Co., Wichita Falls, Tex.
National Tank Co., Tulsa, Okla.
Peerless Mfg. Co., Dallas 1, Tex.
Pollock, William B., Co., Youngstown, Ohio
Pritchard, J. F., & Co., Fidelity Towers Bldg., Kansas City, Mo.
Smith, A. O., Corp., Milwaukee, Wis.
Southwestern Engineering Co., Los Angeles, Calif.
Stearns-Roger Mfg. Co., Denver 2, Colo.
Vulcan Steel Tank Corp., Tulsa, Okla.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Wright-Austin Co., 315 W. Woodridge, Detroit, Mich.
Wyatt Metal & Boiler Works, Houston, Tex.
Zurn, J. A., Mfg. Co., 1801 Pittsburgh Ave., Erie, Pa.

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Ajax Iron Works, 26 Washington St., Corry, Pa.
American District Steam Co., N. Tonawanda, N. Y.
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Centrifix Corp., 3029 Prospect Ave., Cleveland, Ohio
Clark Mfg. Co., The, 1830 E. 38th St., Cleveland 14, Ohio
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Elliott Co., Jeannette, Pa.
Fisher Governor Co., Marshalltown, Iowa
Illinois Engineering Co., 21st and Racine, Chicago, Ill.
Infilco, Inc., 325 W. 25th Place, Chicago, Ill.
Kieley & Mueller, Inc., North Bergen, N. J.
Peerless Mfg. Co., Dallas 1, Tex.
Standard Steel Corp., Los Angeles, Calif.
Strong, Carlisle & Hammond Co., The, 1392 W. 3rd St., Cleveland, Ohio
Wright-Austin Co., 315 W. Woodbridge, Detroit, Mich.

SERVICE—Instrument-Repair: See INSTRUMENT REPAIR SERVICE:

SET SCREWS—See SCREWS, Set:

SHEETS—Asbestos and Cement:
Asbestos & Engineering Products, Ltd., London, England
Carey, Philip, Mfg. Co., The, Cincinnati, Ohio
Farnam, F. D., Co., 4940 W. Flournoy St., Chicago 44, Ill.
Johns-Manville Corp., 22 E. 40th St., New York City
Keasbey & Matteson Co., Ambler, Pa.
Ruberoid Co., 500 5th Ave., New York City

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Lehigh Safety Shoe Co., Inc., Allentown, Pa.
Mine Safety Appliances Co., Pittsburgh, Pa.
Portable Safety Div., Portable Products Corp., Pittsburgh, Pa.
Reece Wooden Sole Shoes Co., Columbus, Neb.

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Mine Safety Appliances Co., Braddock, Thomas and Meade Sts., Pittsburgh, Pa.
Reece Wooden Sole Shoe Co., Columbus, Neb.
Stahmer, F. J., Shoe Co., Davenport, Iowa

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Engineering Specialties Co., 39 Cortlandt St., New York City
Fluor Corp., Ltd., Box 7030, Los Angeles, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
Maxim Silencer Co., Hartford, Conn.
Weber Engine Works, Kansas City, Mo.
Wright-Austin Co., 315 W. Woodridge, Detroit, Mich.

SILICA:
Du Pont de Nemours, E. I., Co., Inc., Wilmington, Del.
Illinois Minerals Co., Cairo, Ill.
International Filter Co., 325 W. 25th Place, Chicago, Ill.
Sullivan Co., The, Memphis, Tenn.

SILICONES:
Dow Corning Corp., Midland, Mich.

SINKS—Acidproof:
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Duriron Co., The, Inc., Dayton, Ohio
General Porcelain Enameling & Mfg. Co., 2750 N. Karlov, Chicago, Ill.
Johns-Manville Corp., 22 E. 40th St., New York, N. Y.
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Mechanical Rubber Co., Passaic, N. J.
U. S. Stoneware Co., Akron, Ohio

SLEEVES—Welding, Pipe: See FITTINGS, Welding:

SMOKE STACKS — Steel: See STACKS, Steel:

SODA ASH:
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Columbia Chemical Div., Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Diamond Alkali Co., Koppers Bldg., Pittsburgh, Pa.
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
Mathieson Alkali Works, Inc., 60 E. 42nd St., New York City
Michigan Alkali Co., 1117 Ford Bldg., Detroit, Mich.
Pennsylvania Salt Mfg. Co., Widener Bldg., Philadelphia, Pa.
Solvay Sales Corp., 40 Rector St., New York City
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

SOFTENERS — Water: See CHEMICALS, Water-Treating, also WATER-SOFTENING UNITS:

SOLENOIDS:
Automatic Electric Co., 1033 W. Van Buren, Chicago, Ill.
Cannon Electric Development Co., 3209 Humbolt St., Los Angeles, Calif.
Cutler-Hammer, Inc., Milwaukee, Wis.
General Controls Co., Glendale, Calif.
General Electric Co., Schenectady, N. Y.
Guardian Electric Co., 1623 W. Walnut St., Chicago, Ill.
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Penn Electric Switch Co., Goshen, Ind.
Synchro-Start Products, Inc., 1046 W. Fullerton Ave., Chicago 14, Ill.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

SOLVENT - EXTRACTION EQUIPMENT—See PROCESSES, Refinery:

SOLVENTS:
American Chemical Paint Co., Ambler, Pa.
Carbide & Carbon Chemicals Corp., 30 East 42nd St., New York City
Dow Chemical Co., The, Midland, Mich.
Du Pont de Nemours, E. I., & Co., Inc., Wilmington, Del.
Monsanto Chemical Co., St. Louis, Mo.
Quaker Oats Co., 141 W. Jackson Blvd., Chicago, Ill.
Standard of California, San Francisco 20, Calif.
Tretolite Co., St. Louis 19, Mo.
Westvaco Chlorine Products Corp., 135 E. 42nd St., New York City

SPARK ARRESTORS—Engine-Exhaust: See ARRESTORS, Spark, Engine-Exhaust:

SPECIALTY EQUIPMENT — See Separate Items:

SPECIFIC GRAVITY RECORDERS — See RECORDERS—Specific Gravity:

SPECTROMETERS:
Bausch & Lomb Optical Co., Rochester, N. Y.
Consolidated Engineering Corp., Pasadena, Calif.
Spencer Lens Co., Buffalo, N. Y.
National Technical Labs., South Pasadena, Calif.

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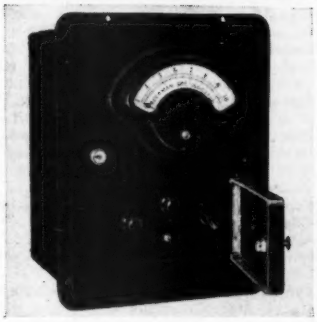

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Hudson Engineering Co., Houston, Tex.
Marley Co., The, Kansas City, Mo.
Pritchard, J. F., & Co., Fidelity Towers Bldg., Kansas City, Mo.
Spray Engineering Co., Somerville, Mass.
Yarnell-Waring Co., Chestnut Hill, Philadelphia, Pa.

SPREADERS—Flange:

Engineering Associates, Tulsa, Okla.
Gearench Mfg. Co., Houston, Tex.

STABILIZERS:

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Badger, E. B., & Sons Co., Boston, Mass.
Beaird Corp., J. B., Shreveport, La.
Braun, C. F., & Co., Inc., Alhambra, Calif.
Head, Wrightson & Co., Ltd., London S.W.I., England
Hudson Engineering Co., Houston, Tex.
National Tank Co., Tulsa, Okla.
Southwestern Engineering Co., Los Angeles, Calif.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Vulcan Steel Tank Corp., Tulsa, Okla.
Wyatt Metal & Boiler Works, Houston, Tex.

STACKS—Steel:

American Steel Works, 27th & Southwest Blvd., Kansas City 8, Mo.
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Beaird Corp., J. B., Shreveport, La.
Bethlehem Steel Co., Bethlehem, Pa.
Biggs Boiler Works, The, Akron, Ohio
Birmingham Tank Co., Birmingham, Ala.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill.
Columbian Steel Tank Co., Kansas City, Mo.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Dallas Tank Co., Dallas, Tex.
Darby Corp., The, 1st & Walker, Kansas City, Kans.
Farrar & Trefts, Inc., Buffalo, N. Y.
M & V Tank Co., Wichita Falls, Tex.
McKee, Arthur G., & Co., Cleveland, Ohio
McNamar Boiler & Tank Co., Tulsa, Okla.
Morrison Brothers, Dubuque, Iowa
Mosher Steel Co., Houston, Tex.,
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson Steel Co., Tulsa, Okla.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Ryerson, Jos. T., & Sons, Inc., Chicago, Ill.
Stacey Mfg. Co., The, Cincinnati, Ohio.
Standard Steel Corp., Los Angeles, Calif.
Southwest Fabricating & Welding Co., 261 75th, Houston 11, Tex.
Southwestern Engineering Co., Los Angeles, Calif.
Stearns-Roger Mfg. Co., Denver 2, Colo.
Union Iron Works, Erie, Pa.
Vulcan Steel Tank Corp., Tulsa, Okla.
Watkins, Inc., Wichita, Kans.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Wickes Boiler Co., Saginaw, Mich.
Wyatt Metal & Boiler Works, Houston, Tex.

STANDPIPES:

Bethlehem Steel Co., Bethlehem, Pa.
Biggs Boiler Works, The, Akron, Ohio
Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Darby Corp., The, Kansas City, Mo.
Flori Pipe Co., St. Louis, Mo.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
McNamar Boiler & Tank Co., Tulsa, Okla.
Pittsburgh Des Moines Steel Co., Pittsburgh, Pa.
Vulcan Steel Tank Co., Tulsa, Okla.
Watkins, Inc., 204 N. Waco, Wichita 2, Kans.
Western Pipe & Steel Co., 5717 Santa Fe Ave., Los Angeles 54, Calif.
Wyatt Metal & Boiler Works, Houston, Tex.

STARTERS—Electric Motor:

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Automatic Temperature Control Co., Inc., 34 E. Logan, Philadelphia, Pa.
Bradley, Allen, Milwaukee, Wis.
Electric Controller & Mfg. Co., Cleveland, Ohio
Electric Machinery Mfg. Co., Minneapolis, Minn.
Russell & Stoll Co., Inc., 125 Barclay, New York City

STEAM SEPARATORS—See SEPARATORS, Steam:

STEAM SUPERHEATERS — See SUPERHEATERS, Steam:

STEAM TRAPS—See TRAPS, Steam:

STEAM TURBINES — See TURBINES, Steam:

STEEL—Alloy:

Alan Wood Steel Co., Conshohocken, Pa.
Allegheny Ludlum Steel Corp., Pittsburgh, Pa.
American Steel & Wire Co., Cleveland 13, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Byers, A. M., Co., Pittsburgh, Pa., Box 83.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Carpenter Steel Co., Reading, Pa.
Copperweld Steel Co., Glassport, Pa.
Duriron Co., The, Inc., Dayton, Ohio
Lukens Steel Co., Coatesville, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
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United Steel Companies, Ltd., The, 17 Westbourne Road, Sheffield 10, England
Washington Steel Corp., 9 E. Beau St., Washington, Pa.
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STEEL—Corrosion-Resisting:

Allegheny Ludlum Steel Corp., Brackenridge, Pa.
American Steel & Wire Co., Cleveland 13, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Carpenter Steel Co., Reading, Pa.
Cooper Alloy Foundry Co., The, Bloy St. & Ramsey Ave., Hillside, N. J.
Duriron Co., The, Inc., Dayton, Ohio
Hadfields, Ltd., East Hecla Works, Sheffield, England
Lukens Steel Co., Coatesville, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Rustless Iron & Steel Div., 3400 Chase St., Baltimore 13, Md.
Ryerson, Jos. T., & Son, 2558 W. 16th St., Chicago, Ill.
Sharon Steel Corp., Sharon, Pa.
Sivyer Steel Casting Co., Milwaukee, Wis.
Timken Roller Bearing Co. (Steel and Tube Div.), Canton, Ohio
United Steel Companies, Ltd., The, 17 Westbourne Road, Sheffield 10, England
Washington Steel Corp., 9 E. Beau St., Washington, Pa.
Wheeling Corrugating Co., Wheeling, W. Va.
Youngstown Sheet & Tube Co., The, Youngstown, Pa.

STEEL—Heat-Resisting:

Allegheny Ludlum Steel Corp., Brackenridge, Pa.
American Steel & Wire Co., Cleveland 13, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Carpenter Steel Co., Reading, Pa.
Hadfields, Ltd., East Hecla Works, Sheffield, England
Head, Wrightson & Co., Ltd., London S.W.I., England
Lukens Steel Co., Coatesville, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Rustless Iron & Steel Div., 3400 Chase St., Baltimore 13, Md.
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Timken Roller Bearing Co. (Steel and Tube Div.), Canton, Ohio
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Washington Steel Corp., 9 E. Beau St., Washington, Pa.

STEEL—Stainless:

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American Steel & Wire Co., Cleveland 13, Ohio
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Carpenter Steel Co., Reading, Pa.
Cooper Alloy Foundry Co., The, Bloy St. & Ramsey Ave., Hillside, N. J.
Copperweld Steel Co., Glassport, Pa.
Duriron Co., The, Inc., Dayton, Ohio
Firth-Sterling Steel Co., McKeesport, Pa.
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Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Rustless Iron & Steel Div., 3400 Chase St., Baltimore 13, Md.
Ryerson, Jos. T., & Son, 2558 W. 16th St., Chicago, Ill.
Sharon Steel Co., Sharon, Pa.
Sivyer Steel Casting Co., Milwaukee, Wis.
Timken Roller Bearing Co. (Steel and Tube Div.), Canton, Ohio
United Steel Companies, Ltd., The, 17 Westbourne Road, Sheffield 10, England
Washington Steel Corp., 9 E. Beau St., Washington, Pa.
Wickwire Spencer Steel Co., 500 5th Ave., New York City

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American Bridge Co., Frick B'dg., Pittsburgh, Pa.

Beaird Corp., The, J. B., Shreveport, La.
Bethlehem Steel Co., Bethlehem, Pa.
Braden Steel Corp., Tulsa, Okla.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Pittsburgh, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Darby Corp., Kansas City, Kans.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Lorenson Matthews Mfg. Co., Dickson City, Pa.
Norris, W. C., Mfgr., Inc., Tulsa, Okla.
Patterson Steel Co., Tulsa, Okla.
Petroleum Iron Works Div. of Pennsylvania Shipyards, Inc., Beaumont, Tex.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Ryerson, Jos. T., & Son, 2558 W. 16th St., Chicago, Ill.
Sheffield Steel Corp., Kansas City, Mo.
Truscon Steel Co., Youngstown, Ohio
Tulsa Boiler & Machinery Co., Tulsa, Okla.
United Steel Companies, Ltd., The, 17 Westbourne Road, Sheffield 10, England
Washington Steel Corp., 9 E. Beau St., Washington, Pa.
Watkins, Inc., Wichita, Kans.
Wyatt Metal & Boiler Works, Houston, Tex.

STEEL BUILDINGS—See BUILDINGS, Sectional, Steel:

STEEL FLOORING — Safety-Tread — See FLOORING, Steel, Safety-Tread:

STEEL GRATING—See GRATING, Steel:

STEEL PLATE FABRICATION—See FABRICATED STEEL:

STEPS—Stair-Tread—See STAIR TREADS, Steel:

STILLS—Cracking:
Badger, E. B., & Sons Co., Boston, Mass.
Bethlehem Steel Co., Bethlehem, Pa.
Biggs Boiler Works, The, Akron, Ohio
Blaw-Knox Co., Blawnox, Pa.
Born Engineering Co., Tulsa, Okla.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Farrar & Trefts, Inc., Buffalo, N. Y.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Head, Wrightson & Co., Ltd., London S.W.I., England
Hudson Engineering Co., Houston, Tex.
Kellogg Co., The M. W., 225 Broadway, New York City
Lummus Co., 420 Lexington Ave., New York City
McKee, Arthur G., & Co., Cleveland, Ohio
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Petroleum Iron Works Div. of Pennsylvania Shipyards, Inc., Beaumont, Tex.
Pollock, William B., Co., Youngstown, Ohio
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Southwestern Engineering Co., Los Angeles, Calif.
Smith, A. O., Corp., Milwaukee, Wis.
Standard Steel Corp., Los Angeles, Calif.
Struthers-Wells, Warren, Pa.
Watkins, Inc., 204 N. Waco, Wichita 2, Kans.
Wyatt Metal & Boiler Works, Houston, Tex.

STILLS—Crude:
Badger, E. B., & Sons Co., Boston, Mass.
Bethlehem Steel Co., Bethlehem, Pa.
Biggs Boiler Works, The, Akron, Ohio
Born Engineering Co., Tulsa, Okla.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Head, Wrightson & Co., Ltd., London S.W.I., England.
Hudson Engineering Co., Houston, Tex.
Kellogg Co., The M. W., 225 Broadway, New York City
Lummus Co., 420 Lexington Ave., New York City
McKee, Arthur G., & Co., Cleveland, Ohio
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Winkler-Koch Engineering Co., Wichita, Kans.
Wyatt Metal & Boiler Works, Houston, Tex.

STILLS—Pipe:
Alcorn Combustion Co., Philadelphia, Pa.
Badger, E. B., & Sons Co., Boston, Mass.
Bethlehem Steel Co., Bethlehem, Pa.
Born Engineering Co., Tulsa, Okla.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
Head, Wrightson & Co., Ltd., London S.W.I., England
Hudson Engineering Co., Houston, Tex.
Kellogg Co., The M. W., 225 Broadway, New York City
Lummus Co., 420 Lexington Ave., New York City
McKee, Arthur G., & Co., Cleveland, Ohio
Nooter, John, Boiler Works Co., St. Louis, Mo.
Oxley Engineering Co., Ltd., London, England
Southwestern Engineering Co., Los Angeles, Calif.
Watkins, Inc., 204 N. Waco, Wichita 2, Kans.

STILLS—Steam:
Bethlehem Steel Co., Bethlehem, Pa.
Biggs Boiler Works, The, Akron, Ohio
Born Engineering Co., Tulsa, Okla.
Brown Fintube Co., Elyria, Ohio
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
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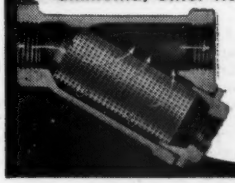

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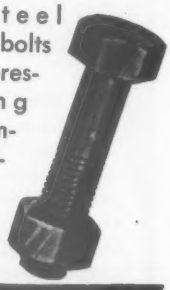

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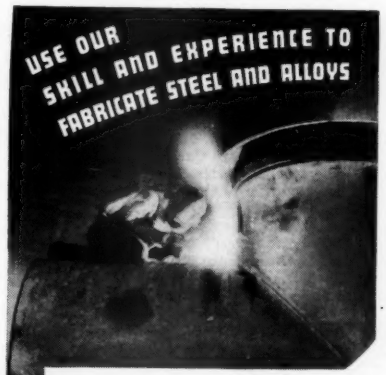

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Hudson Engineering Co., Houston, Tex.
Kellogg Co., The M. W., 225 Broadway, New York 7, N. Y.
Lucey Boiler & Mfg. Co., Chattanooga, Tenn.
Maloney Tank Mfg. Co., Tulsa, Okla.
McNamar Boiler & Tank Co., Tulsa, Okla.
Morrison Bros. Co., Dubuque, Iowa
Mosher Steel Co., Houston, Tex.
Muskegon Boiler Works, Muskegon, Mich.
National Radiator Co., The, Johnstown, Pa.
National Tank Mfg. Co., Tulsa, Okla.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Oxley Engineering Co., Ltd., London, England
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Smith, A. O., Corp., Milwaukee, Wis.
Southwest Fabricating & Welding Co., 261 75th St., Houston 11, Tex.
Southwest Welding & Mfg. Co., Alhambra, Calif.
Southwestern Engineering Co., Los Angeles, Calif.
Standard Steel Corp., 5001 S. Boyle Ave., Los Angeles 11, Calif.
Stearns-Roger Mfg. Co., Denver, Colo.
Struthers-Wells, Warren, Pa.
Sun Shipbuilding & Dry Dock Co., Chester, Pa.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
Union Iron Works, Erie, Pa.
Vogt, Henry, Machine Co., 1000 W. Ormsby St., Louisville 10, Ky.
Vulcan Steel Tank Corp., Tulsa, Okla.
Wickes Boiler Co., Saginaw, Mich.
Wyatt Metal & Boiler Works, Houston, Tex.
Youngstown Welding & Engineering Co., The, Youngstown, Ohio

TANKS—Riveted Steel:
Ashmore, Benson, Pease & Co., Ltd., Stockton-on-Tees, England
Bethlehem Steel Co., Bethlehem, Pa.
Bros, Wm., Boiler & Mfg. Co., Minneapolis, Minn.
Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill.
Clayton, Son & Co., Ltd., Leeds, England
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Darby Corp., Kansas City, Kans.
Farrar & Trefts, Inc., Buffalo, N. Y.
Frick Co., Waynesboro, Pa.
General American Transportation Corp., 135 S. LaSalle St., Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graver Tank & Mfg. Co., 4809 Todd, East Chicago, Ind.
Hammond Iron Works, 630 Fifth Ave., New York 20, N. Y.
Head, Wrightson & Co., Ltd., London S.W.I., England
Kewanee Boiler Corp., Kewanee, Ill.
Lucey Boiler & Mfg. Co., Chattanooga, Tenn.
Mosher Steel Co., Houston, Tex.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Oxley Engineering Co., Ltd., London, England
Patterson Foundry & Machine Co., The, East Liverpool, Ohio
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Southwestern Engineering Co., Los Angeles, Calif.
Southwest Welding & Mfg. Co., Alhambra, Calif.
Stacey Mfg. Co., The, Cincinnati, Ohio
Union Iron Works, Erie, Pa.
Watkins, Inc., 204 N. Waco, Wichita 2, Kans.

TANKS—Spherical:
Ashmore, Benson, Pease & Co., Ltd., Stockton-on-Tees, England
Bethlehem Steel Co., Bethlehem, Pa.
Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill.
Columbian Steel Tank Co., Kansas City, Mo.
Dallas Tank Co., Dallas, Tex.
Darby Corp., Kansas City, Kans.
Graver Tank & Mfg. Co., 4809 Todd, East Chicago, Ind.
Hammond Iron Works, 630 Fifth Ave., New York 20, N. Y.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Wyatt Metal & Boiler Works, Houston, Tex.

TANKS—Treating:
American Steel Works, Kansas City, Mo.
Beaird Corp., J. B., Shreveport, La.
Bethlehem Steel Co., Bethlehem, Pa.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Bros, Wm., Boiler & Mfg. Co., Minneapolis, Minn.
Burt Tank, Separator & Oil Treating Corp., Wichita Falls, Tex.
Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago 4, Ill.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Dallas Tank Co., Dallas, Tex.
Devine, J. P., Mfg. Co., Mount Vernon, Ill.
Downingtown Iron Works, E. Downingtown, Pa.
Eaton Metal Products Co., 4800 York St., Denver 16, Colo.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graver Tank & Mfg. Co., 4809 Todd, East Chicago, Ind.
Hammond Iron Works, 630 Fifth Ave., New York 20, N. Y.
Haveg Corp., Newark, Del.
McNamar Boiler & Tank Co., Tulsa, Okla.
Maloney Tank Mfg. Co., Tulsa, Okla.
National Tank Co., Tulsa, Okla.
Nooter, John, Boiler Works Co., 1400 S. Second St., St. Louis 4, Mo.
Patterson-Kelley Co., Inc., The East Stroudsburg, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Southwest Welding & Mfg. Co., Alhambra, Calif.
Stacey Mfg. Co., The, Cincinnati, Ohio
Vulcan Steel Tank Corp., Tulsa, Okla.
Wyatt Metal & Boiler Works, Houston, Tex.
Youngstown Welding & Engineering Co., The, Youngstown, Ohio

TANKS—Welded Steel:
American Locomotive Co., Alco Products Div., 30 Church St., New York City
American Car & Foundry Co., 30 Church St., New York 7, N. Y.
American District Steam Co., N. Tonawanda, N. Y.
American Steel Works, Kansas City, Mo.
American Welding & Mfg. Co., Warren, Ohio
Ashmore, Benson, Pease & Co., Ltd., Stockton-on-Tees. England
Babcock & Wilcox Co., The, 85 Liberty St., New York City
Beaird Corp., J. B., Shreveport, La.
Bethlehem Steel Co., Bethlehem, Pa.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
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Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
Darby Corp., Kansas City, Kan.
Dallas Tank Co., Dallas, Tex.
Devine, J. P., Mfg. Co., Mount Vernon, Ill.
Downingtown Iron Works, E. Downingtown, Pa.
Eaton Metal Products Co., 4800 York St., Denver 16, Colo.
Edge Moore Iron Works, Inc., 30 Rockefeller Plaza, New York City
Farrar & Trefts, Inc., Buffalo, N. Y.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Goslin Birmingham Mfg. Co., Inc., Birmingham, Ala.
Graver Tank & Mfg. Co., 4809 Todd, East Chicago, Ind.
Hammond Iron Works, 630 Fifth Ave., New York 20, N. Y.
Head, Wrightson & Co., Ltd., London S.W.I., England
Heat Transfer Products, Inc., P.O. Box 516, Carbondale, Pa.
Hendrick Mfg. Co., Carbondale, Pa.
Kellogg Co., The M. W., 225 Broadway, New York City
Lancaster Iron Works, Lancaster, Pa.
Leader Iron Works, Inc., 2100 N. Jasper, Decature 60, Ill.
Lucey Boiler & Mfg. Co., Chattanooga, Tenn.
McNamar Boiler & Tank Co., Tulsa, Okla.
M & V Tank Co., Wichita Falls, Tex.
Maloney Tank Mfg. Co., Tulsa, Okla.
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Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Pfaudler Co., The, Rochester, N. Y.
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Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Southwest Fabricating & Welding Co., 261 75th St., Houston 11, Tex.
Southwestern Engineering Co., Los Angeles, Calif.
Stacey Mfg. Co., The, Cincinnati, Ohio
Standard Steel Corp., 5001 So. Boyle Ave., Los Angeles 11, Calif.
Stearns-Roger Mfg. Co., Denver 2, Colo.
Struthers-Wells, Warren, Pa.
Sun Shipbuilding & Dry Dock Co., Chester, Pa.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
U. S. Stoneware Co., Akron, Ohio
Union Iron Works, Erie, Pa.
Vogt, Henry, Machine Co., 1000 W. Ormsby St., Louisville 10, Ky.
Vulcan Steel Tank Corp., Tulsa, Okla.
Wickes Boiler Co., Saginaw, Mich.
Wyatt Metal & Boiler Works, Houston, Tex.

TANKS—Wood:
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Bros, Wm., Boiler & Mfg. Co., Minneapolis, Minn.
Eagle-Picher Sales Co., The, American Bldg., Cincinnati 1, Ohio
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Dillon, W. C., & Co., Inc., 5410 W. Harrison, Chicago, Ill.
Mansfield & Green, 4601 Euclid Ave., Cleveland 3, Ohio
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Trerice, H. O., Co., Detroit, Mich.

TESTING INSTRUMENTS—See OIL-TESTING INSTRUMENTS:

TETRAETHYL LEAD:
Ethyl Gasoline Corp., 405 Lexington Ave., New York City

THERMOCOUPLES:
Bristol Co., The, Waterbury, Conn.
Brown Instrument Div., Wayne and Roberts Aves., Philadelphia, Pa.
Foxboro Co., Foxboro, Mass.
General Controls Co., Glendale, Calif.
Illinois Testing Lab., Inc., 420 N. LaSalle St., Chicago 10, Ill.
Leeds & Northrup Co., Philadelphia, Pa.
Nelson Electric Mfg. Co., Tulsa, Okla.
Richards, Arklay S., Inc., Newton Highlands, Mass.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trinity Equipment & Supply Co., 136 Liberty St., New York 6, N. Y.

Wheelco Instruments Co., 847 West Harrison St., Chicago 7, Ill.

THERMOMETERS—Dial:
Brown Instrument Co., The, 4488 Wayne Ave., Philadelphia 44, Pa.
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Trerice, H. O., Co., Detroit, Mich.
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Weston Electrical Instrument Corp., Newark, N. J.

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Bristol Co., The, Waterbury, Conn.
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Greiner, Emil, Co., 55 Van Dam St., New York City
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Nurnberg Thermometer Co., Brooklyn, N. Y.
Palmer Co., The, Norwood, Cincinnati, Ohio
Powers Regulator Co., 2720 Greenview Ave., Chicago, Ill.
Refinery Supply Co., Tulsa, Okla.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trerice Co., H. O., Detroit, Mich.
U. S. Gauge Div. Amer. Mach. & Metals, Inc., Sellersville, Pa.
Weston Electrical Instrument Corp., Newark, N. J.

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Brown Instrument Div., Wayne and Roberts Aves., Philadelphia, Pa.
Condenser Service & Engr. Co., Inc., Hoboken, N. J.
Greiner, Emil, Co., 55 Van Dam St., New York City
Kimble Glass Co., Vineland, N. J.
Nurnberg Thermometer Co., Brooklyn, N. Y.
Palmer Co., The, Norwood, Cincinnati, Ohio
Refinery Supply Co., Tulsa, Okla.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trerice Co., H. O., Detroit, Mich.
U. S. Gauge Div. Amer. Mach. & Metals, Inc., Sellersville, Pa.
Wheelco Instruments Co., 847 West Harrison St., Chicago 7, Ill.

THERMOMETERS—Recording:
Brown Instrument Div., Wayne and Roberts Aves., Philadelphia, Pa.
Foxboro Co., Foxboro, Mass.
Illinois Testing Lab., Inc., 420 N. LaSalle St., Chicago 10, Ill.
Leeds & Northrup Co., Philadelphia, Pa.
Moore Products Co., Philadelphia, Pa.
Palmer Co., The, Norwood, Cincinnati, Ohio
Refinery Supply Co., Tulsa, Okla.
Republic Flow Meters Co., Chicago 47, Ill.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Trerice Co., H. O., Detroit, Mich.
Wheelco Instruments Co., 847 West Harrison St., Chicago 7, Ill.

THERMOMETERS—Wet and Dry Bulb:
Bristol Co., The, Waterbury, Conn.
Brown Instrument Div., Wayne and Roberts Aves., Philadelphia, Pa.
Davis Emergency Equipment Co., Inc., Newark, N. J.
Foxboro Co., Foxboro, Mass.
Greiner, Emil, Co., 55 Van Dam St., New York City
Kimble Glass Co., Vineland, N. J.
Leeds & Northrup Co., Philadelphia, Pa.
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Palmer Co., The, Norwood, Cincinnati, Ohio
Schaar & Co., 754 W. Lexington, Chicago, Ill.
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Taylor Instrument Companies, Rochester, N. Y.

THERMOSTATS:
Atlas Valve Co., 276 South St., Newark, N. J.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Brown Instrument Div., Wayne and Roberts Aves., Philadelphia, Pa.
General Controls Co., Glendale, Calif.
Greiner, Emil, Co., 55 Van Dam St., New York City
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McAlear Mfg. Co., 1901 S. Western Ave., Chicago, Ill.
Mercoid Corp., 4201 Belmont, Chicago, Ill.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Penn Electric Switch Co., Goshen, Ind.
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Refinery Supply Co., Tulsa, Okla.
Sarco Co., Inc., 475 5th Ave., New York City
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
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THIEF HATCHES—See TANK GAUGE and THIEF HATCHES:

THIEFS—Oil:
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Vapor Recovery Systems Co., The, Compton, Calif.

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Babcock & Wilcox Co., The, 85 Liberty St., New York City
Bigelow Liptak Corp., Detroit, Mich.
Botfield Refractories Co., 776 S. Swanson St., Philadelphia, Pa.
General Refractories Co., 1600 Real Estate Trust Bldg., Philadelphia, Pa.
Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh, Pa.
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Mexico Refractories Co., Mexico, Mo.
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TOOL HOUSES—See HOUSES, Tool

TOOLS, Hand—See Specific Tools

TOOLS, Pneumatic—See Specific Tools

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TOWERS, Cooling — See COOLING TOWERS

TOWERS—Evaporator:
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Ashmore, Benson, Pease & Co., Ltd., Stockton-on-Tees, England
Combustion Engineering Co., Inc., 200 Madison Ave., New York City

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General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
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Head, Wrightson & Co., Ltd., London S.W.I., England
Hudson Engineering Co., Houston, Tex.
Kellogg Co., The M. W., 225 Broadway, New York City
National Tank Co., Tulsa, Okla.
Nooter, John, Boiler Works Co., 1400 So. Second St., St. Louis 4, Mo.
Oxley Engineering Co., Ltd., London, England
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Wyatt Metal & Boiler Works, Houston, Tex.

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Bethlehem Steel Co., Bethlehem, Pa.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
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Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill.

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Darby Corp., Kansas City, Kans.
Devine, J. P., Manufacturing Co., Mount Vernon, Ill.
Edge Moore Iron Works, Inc., 30 Rockefeller Plaza, New York City
Farrar & Trefts, Inc., Buffalo, N. Y.
Flori Pipe Co., St. Louis, Mo.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Foster Wheeler Corp., 165 Broadway, New York City
Gasoline Plant Construction Co., Houston, Tex.
General American Transportation Corp., 135 S. La Salle St., Chicago, Ill.
Head, Wrightson & Co., Ltd., London S.W.I., England
Hudson Engineering Co., Houston, Tex.
Kellogg Co., The M. W., 225 Broadway, New York City
McNamar Boiler & Tank Co., Tulsa, Okla.
Muskegon Boiler Works, Muskegon, Mich.
National Carbon Co., Inc., 50 E. 42nd St., New York 17, N. Y.
National Tank Co., Tulsa, Okla.
Nooter, John, Boiler Works Co., 1400 So. Second St., St. Louis 4, Mo.
Oxley Engineering Co., Ltd., London, England
Patterson-Kelley Co., Inc., The, East Stroudsburg, Pa.
Porter, H. K., Co., Inc., 1932 Oliver Bldg., Pittsburgh 22, Pa.
Smith, A. O., Corp., Milwaukee, Wis.
Southwest Welding & Mfg. Co., Alhambra, Calif.
Southwestern Engineering Co., Los Angeles, Calif.
Stacey Mfg. Co., The, Cincinnati, Ohio
Standard Steel Corp., 5001 So. Boyle Ave., Los Angeles 11, Calif.
Stearns-Roger Mfg. Co., Denver, Colo.
Stratford Engineering Corp., Kansas City, Mo.
Struthers-Wells, Warren, Pa.
Tulsa Boiler & Machinery Co., Tulsa, Okla.
U. S. Stoneware Co., Akron, Ohio
Vogt, Henry, Machine Co., 1000 W. Ormsby St., Louisville 10, Ky.
Vulcan Steel Tank Corp., Tulsa, Okla.
Watkins, Inc., Wichita, Kan.
Wyatt Metal & Boiler Works, Houston, Tex.

TRANSFORMERS—Distribution:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Locomotive Co., 30 Church St., New York 7, N. Y.
General Electric Co., Schenectady, N. Y.
Wagner Electric Corp., St. Louis, Mo.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TRANSFORMERS—Power:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Federal Telephone & Radio Corp., 67 Broad St., New York City.
General Electric Co., Schenectady, N. Y.
Kuhlman Electric Co., Bay City, Mich.
Moloney Electric Co., St. Louis, Mo.
Wagner Electric Corp., St. Louis, Mo.

TRANSFORMERS
Wagner transformers include all types and sizes of distribution and power transformers. Wagner Noflamol distribution transformers are especially recommended for use in the oil and chemical industries because they are filled with a non-inflammable, synthetic liquid.
Completely described in Bulletins TU-180 (Distribution) and TU-181 (Power).
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Wagner Electric Corporation
6388 Plymouth Avenue, St. Louis 14, Mo., U. S. A.
ELECTRICAL AND AUTOMOTIVE PRODUCTS

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

TRANSMISSIONS—Variable Speed:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Cotta Transmission Co., Rockford, Ill.
Ideal Commutator Dresser Co., Sycamore, Ill.
Link-Belt Co., 2045 W. Hunting Park Ave., Philadelphia 40, Pa.
Twin Disc Clutch Co., Rockford, Ill.
Worthington Pump & Machinery Corp., Harrison, N. J.

TRAPS—Air:
Anderson, V. D., Co., Cleveland, Ohio
Armstrong Machine Works, Three Rivers, Mich.
Clark Mfg. Co., The, Cleveland, Ohio
De Vilbiss Co., Toledo, Ohio
Flotrol Systems, Inc., 385 Gerard Ave., New York 51, N. Y.
Keckley, O. C., & Co., 400 W. Madison St., Chicago 6, Ill.
McAlear Manufacturing Co., 1901 S. Western, Chicago, Ill.
Sarco Co., Inc., 475 5th Ave., New York City
Squires, C. E., Co., 3934 Kelly Ave., Cleveland, Ohio
Strong, Carlisle & Hammond Co., The, 1392 W. 3rd St., Cleveland, Ohio
Trerice, H. O., Co., Detroit, Mich.
Wright-Austin Co., 315 W. Woodridge, Detroit, Mich.

TRAPS—Ball Float:
American District Steam Co., N. Tonawanda, N. Y.
Anderson, V. D., Co., Cleveland, Ohio
Armstrong Machine Works, Three Rivers, Mich.
Clark Mfg. Co., The, 1830 E. 38th, Cleveland 14, Ohio
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Kaye & McDonald, Inc., West Orange, N. J.
Kieley & Mueller, Inc., North Bergen, N. J.
McAlear Manufacturing Co., 1901 S. Western, Chicago, Ill.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Sarco Co., Inc., 475 5th Ave., New York City
Strong, Carlisle & Hammond Co., The, 1392 W. 3rd St., Cleveland, Ohio
Vapor Recovery Systems Co., The, Compton, Calif.
Zurn, J. A., Mfg. Co., 1801 Pittsburgh Ave., Erie, Pa.

TRAPS—Blast:
Anderson, V. D., Co., Cleveland, Ohio
Armstrong Machine Works, Three Rivers, Mich.
Clark Mfg. Co., The, 1830 E. 38th, Cleveland 14, Ohio
Sarco Co., Inc., 475 5th Ave., New York City
Squires C. E., Co., Cleveland, Ohio
Strong, Carlisle & Hammond Co., The, 1392 W. 3rd St., Cleveland, Ohio
Trerice, H. O., Co., Detroit, Mich.
Wright-Austin Co., 315 W. Woodridge, Detroit, Mich.

TRAPS—Bucket:
Anderson, V. D., Co., Cleveland, Ohio
Armstrong Machine Works, Three Rivers, Mich.
Clark Mfg. Co., The, 1830 E. 38th, Cleveland 14, Ohio
Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.
Crane Co., Michigan Ave., Chicago, Ill.
Kaye & McDonald, Inc., West Orange, N. J.
Kieley & Mueller, Inc., North Bergen, N. J.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Peerless Mfg. Co., Dallas 1, Tex.
Sarco Co., Inc., 475 5th Ave., New York City
Squires, C. E., Co., Cleveland, Ohio
Strong, Carlisle & Hammond Co., The, 1392 W. 3rd St., Cleveland, Ohio
Swartwout Co., The, 18511 Euclid Ave., Cleveland, Ohio
Wright-Austin Co., 315 W. Woodridge, Detroit, Mich.

TRAPS—Gasoline:
Anderson, V. D., Co., Cleveland, Ohio
Armstrong Machine Works, Three Rivers, Mich.
Clark Mfg. Co., The, 1830 E. 38th, Cleveland 14, Ohio

Fisher Governor Co., Marshalltown, Iowa
Flotrol Systems, Inc., 385 Gerard Ave., New York 51, N. Y.
McAlear Manufacturing Co., 1901 S. Western, Chicago, Ill.
Swartwout Co., The, 18511 Euclid Ave., Cleveland, Ohio
Wright-Austin Co., 315 W. Woodridge, Detroit, Mich.
Zuro, J. A., Mfg. Co., 1801 Pittsburgh Ave., Erie, Pa.

TRAPS—Steam:

Ajax Iron Works, 76 W. Washington St., Corry, Pa.
American District Steam Co., N. Tonawanda, N. Y.
Anderson, V. D., Co., Cleveland, Ohio
Armstrong Machine Works, Three Rivers, Mich.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Clark Mfg. Co., The, 1830 E. 38th, Cleveland 14, Ohio
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Fisher Governor Co., Marshalltown, Iowa
Keckley, O. C., Co., 400 W. Madison St., Chicago 6, Ill.
Kieley & Mueller, Inc., North Bergen, N. J.
McAlear Manufacturing Co., 1901 S. Western, Chicago, Ill.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Sarco Co., Inc., 475 5th Ave., New York City.

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Three types of steam traps are necessary for successful refinery operation. Sarco Bucket Trap for supply lines to pumps, turbines, general use. Equipped with integral strainers, straight thru connections. Pressures up to 900 lbs. Cat. 350. Sarco Thermostatic Traps Nos. 9 and 87 for heater lines, general outdoor use. Conserves steam, can't freeze, no seat changes. Cat. 250. Sarco Float-thermostatic Traps with automatic air vents for close temperature control. Cat. 450.
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Squires, C. E., Co., 3934 Kelly Ave., Cleveland, Ohio
Strong, Carlisle & Hammond Co., The, 1392 W. 3rd St., Cleveland, Ohio
Swartwout Co., The, 18511 Euclid Ave., Cleveland, Ohio
Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
Trerice Co., H. O., Detroit, Mich.
Wright-Austin Co., 315 W. Woodridge, Detroit, Mich.
Yarnall-Waring Co., Chestnut Hill, Philadelphia, Pa.

TRAPS—Vacuum:

Anderson, V. D., Co., Cleveland, Ohio
Armstrong Machine Works, Three Rivers, Mich.
Clark Mfg. Co., 1830 E. 38th, Cleveland 14, Ohio
Kieley & Mueller, N. Bergen, N. J.
McAlear Manufacturing Co., 1901 S. Western, Chicago, Ill.
Strong, Carlisle & Hammond Co., The, 1392 W. 3rd St., Cleveland, Ohio
Swartwout Co., The, 18511 Euclid Ave., Cleveland, Ohio

TRAYS—Bubble:

Badger, E. B., & Sons Co., Boston, Mass.
Beaird Corp., J. B., Shreveport, La.
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Borden Metal Products Co., Elizabeth, N. J.
Braun, C. F., & Co., Inc., Alhambra, Calif.
Columbian Steel Tank Co., Kansas City, Mo.
Dallas Tank Co., Dallas, Tex.
Darby Corp., Kansas City, Kans.
Devine, J. P., Manufacturing Co., Mount Vernon, Ill.
Duriron Co., Inc., The, Dayton, Ohio
Farrar & Trefts, Inc., Buffalo, N. Y.
Fluor Corp., Ltd., Box 7030, Los Angeles, Calif.
Hadfields, Ltd., East Hecla Works, Sheffield, England
Head, Wrightson & Co., Ltd., London S.W.I., England
Hudson Engineering Co., Houston, Tex.
Kellogg Co., The M. W., 225 Broadway, New York City
McKee, Arthur G., & Co., Cleveland, Ohio
Meehanite Metal Corp., Pershing Bldg., New Rochelle, N. Y.
Ohio Steel Foundry Co., The, Springfield, Ohio
Petroleum Engineering, Inc., Tulsa, Okla.
Ross-Meehan Foundries, Chattanooga, Tenn.
Solar Aircraft Co., San Diego, Calif.
Southwestern Engineering Co., Los Angeles, Calif.
Stearns-Roger Mfg. Co., Denver, Colo.
Tulsa Boiler & Machinery Co., Tulsa, Okla.

TREADS—Stair—See STAIR TREADS, Steel

TREATERS—Continuous:

Gray Process Corp., 26 Journal Square, Jersey City, N. J.
%Proportioneers, Inc.%, Providence, R. I.
Sharples Corp., The, Philadelphia, Pa.
Turbo-Mixer Corp., The, 247 Park Ave., New York City
Winkler-Koch Engineering Co., Wichita, Kans.

TREATERS—De-salting—See PLANTS—De-salting:

TREATERS—Emulsions:

Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Burt Tank, Separator & Oil Treating Corp., Wichita Falls, Tex.
Flotrol Systems, Inc., 385 Gerard Ave., New York 51, N. Y.
M. & V. Tank Co., Wichita Falls, Tex.
National Tank Co., Tulsa, Okla.
Petroleum Rectifying Co., Los Angeles 13, Calif.
Vulcan Steel Tank Corp., Tulsa, Okla.

TRUCKS—Motor:

Four Wheel Drive Auto Co., Clintonville, Wis.
General Motors Corp., Detroit, Mich.
International Harvester Co., Chicago, Ill.
Mack Mfg. Co., Empire State Bldg., New York City
Sterling Motors Corp., Milwaukee, Wis.
Walter Motor Truck Co., Ridgewood, Queens, N. Y.
White Motor Co., The, Cleveland, Ohio

TREATING PLANTS—See PLANTS

TUBE CLEANERS—See CLEANERS, Tube

TUBE EXPANDERS — See EXPANDERS, Tube

TUBE HANGERS—See SUPPORTS, Tube

TUBE SUPPORTS—See SUPPORTS, Tube

TUBES—Alloy-Steel:

Babcock & Wilcox Tube Co., The, 85 Liberty St., New York City
Bethlehem Steel Co., Bethlehem, Pa.
Carpenter Steel Co., The, Kenilworth, N. J.
Duraloy Co., The, Scottdale, Pa.
Globe Steel Tubes Co., Milwaukee, Wis.
Kellogg Co., The M. W., 225 Broadway, New York City
Michigan Seamless Tube Co., South Lyon, Mich.
National Tube Co., Box 266, Pittsburgh, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Republic Steel Corp., Cleveland, Ohio
Revere Copper & Brass, Inc., 230 Park Ave., New York City.
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
Southwestern Engineering Co., Los Angeles, Calif.
Spang Chalfont Div. Natl. Supply Co., Pittsburgh, Pa.
Steel & Tubes Division, Republic Steel Corp., Cleveland, Ohio
Timken Roller Bearing Co. (Steel and Tube Div.), Canton, Ohio
Tube Reducing Corp., Passaic, N. J.
Tubular Alloy Steel Corp., Gary, Ind.
Wolverine Tube Co., 1411 Central Ave., Detroit, Mich.
Youngstown Sheet & Tube Co., The, Youngstown, Ohio
Youngstown Welding & Engineering Co., The, Youngstown, Ohio

TUBES—Boiler:

Babcock & Wilcox Tube Co., The, 85 Liberty St., New York City
Bethlehem Steel Co., Bethlehem, Pa.
Globe Steel Tubes Co., Milwaukee, Wis.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
National Tube Co., Box 266, Pittsburgh, Pa.
Ohio Seamless Tube Co., The, Shelby, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
Spang-Chalfont Div., National Supply Co., Pittsburgh, Pa.
Steel & Tubes Division, Republic Steel Corp., Cleveland, Ohio
Timken Roller Bearing Co., Canton, Ohio
Youngstown Sheet & Tube Co., The, Youngstown, Ohio

TUBES—Brass and Copper:

American Brass Co., 114 Meadow St., Waterbury 88, Conn.
Bridgeport Brass. Co., Bridgeport, Conn.
Chase Brass & Copper Co., Waterbury, Conn.
Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Revere Copper & Brass, Inc., 230 Park Ave., New York City
Shenango-Penn Mold Co., Dover, Ohio
Scovill Mfg. Co., Waterbury, Conn.
Tube Reducing Corp., Passaic, N. J.
Wolverine Tube Div., 1411 Central Ave., Detroit, Mich.

TUBES—Condensers:

American Brass Co., 414 Meadow St., Waterbury 88, Conn.
Babcock & Wilcox Tube Co., The, 85 Liberty St., New York City
Bridgeport Brass Co., Bridgeport, Conn.
Carpenter Steel Co., Kenilworth, N. J.
Cast Iron Pipe Research Assn., 122 S. Michigan, Chicago, Ill.
Chase Brass & Copper Co., Waterbury, Conn.

Fluor Corp., Ltd., Box 7030, Los Angeles 22, Calif.
Globe Steel Tubes Co., Milwaukee, Wis.
Kellogg Co., The M. W., 225 Broadway, New York City
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
National Tube Co., Box 266, Pittsburgh, Pa.
Ohio Seamless Tube Co., The, Shelby, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Porter, H. K. Co., Inc., Oliver Bldg., Pittsburgh 22, Pa.
Republic Steel Corp., Republic Bldg., Pittsburgh 22, Pa.
Revere Copper & Brass, Inc., 230 Park Ave., New York City
Ryerson, Jos. T., & Sons, Inc., Chicago, Ill.
Scovill Mfg. Co., Waterbury, Conn.
Southwestern Engineering Co., Los Angeles, Calif.
Spang-Chalfont Div. National Supply Co., Pittsburgh, Pa.
Steel & Tubes Division, Republic Steel Corp., Cleveland, Ohio
Timken Roller Bearing Co. (Steel and Tube Div.), Canton, Ohio
Wolverine Tube Div., 1411 Central Ave., Detroit, Mich.

TUBES—Corrosion-Resisting:
Allegheny Ludlum Steel Corp., Pittsburgh, Pa.
Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh, Pa.
American Brass Co., Waterbury, Conn.
Babcock & Wilcox Tube Co., The, 85 Liberty St., New York City
Carpenter Steel Co., Kenilworth, N. J.
Chase Brass & Copper Co., Waterbury, Conn.
Duraloy Co., The, Scottdale, Pa.
Globe Steel Tubes Co., Milwaukee, Wis.
Haynes Stellite Co., Kokomo, Ind.
Kellogg Co., The M. W., 225 Broadway, New York City
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
National Tube Co., Box 266, Pittsburgh, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Revere Copper & Brass, Inc., 230 Park Ave., New York City
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
Shenango-Penn Mold Co., Dover, Ohio
Steel & Tubes Division, Republic Steel Corp., Cleveland, Ohio
Timken Roller Bearing Co. (Steel and Tube Div.), Canton, Ohio
U. S. Stoneware Co., Akron, Ohio
Wolverine Tube Div., 1411 Central Ave., Detroit, Mich.
Youngstown Sheet & Tube Co., The, Youngstown, Ohio
Youngstown Welding & Engineering Co., The, Youngstown, Ohio

TUBES—Cracking-Still:
Allegheny-Ludlum Steel Corp., Pittsburgh, Pa.
Babcock & Wilcox Tube Co., The, 85 Liberty St., New York City
Bethlehem Steel Co., Bethlehem, Pa.
Globe Steel Tubes Co., Milwaukee, Wis.
Kellogg Co., The M. W., 225 Broadway, New York City
National Tube Co., Box 266, Pittsburgh, Pa.
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Spang-Chalfont Div. National Supply Co., Pittsburgh, Pa.
Timken Roller Bearing Co. (Steel and Tube Div.), Canton, Ohio

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Brown Fintube Co., The, Elyria, Ohio
Combustion Engineering Co., Inc., 200 Madison Ave., New York, N. Y.
Globe Steel Tubes Co., Milwaukee, Wis.
Griscom-Russell Co., The, 285 Madison Ave., New York City
National Radiator Co., Johnstown, Pa.
Schutte & Koerting Co., Philadelphia, Pa.
Scovill Mfg. Co., Waterbury, Conn.
Timken Roller Bearing Co., Canton, Ohio
Wolverine Tube Div., 1411 Central Ave., Detroit, Mich.

TUBES—Heat Exchanger—See TUBES, Condenser:

TUBES—Pyrometer:
Bristol Co., The, Waterbury, Conn.
Brown Instrument Div., Wayne and Roberts Aves., Philadelphia, Pa.
Duraloy Co., The, Scottdale, Pa.
Foxboro Co., The, Foxboro, Mass.
Globe Steel Tubes Co., Milwaukee, Wis.
Greiner, Emil, Co., 55 Van Dam St., New York City
Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa.
National Carbon Co., Inc., Cleveland, Ohio
Ohio Steel Foundry Co., The, Springfield, Ohio
Pressed Steel Co., The, Wilkes-Barre, Pa.
Wheelco Instruments, Chicago, Ill.

TUBES—Seamless Steel:
Allegheny Ludlum Steel Corp., Brackenridge, Pa.
Babcock & Wilcox Tube Co., The, 85 Liberty St., New York City
Bethlehem Steel Co., Bethlehem, Pa.
Globe Steel Tubes Co., Milwaukee, Wis.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Michigan Seamless Tube Co., South Lyon, Mich.
National Tube Co., Box 266, Pittsburgh, Pa.
Ohio Seamless Tube Co., Shelby, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
Southwestern Engineering Co., Los Angeles, Calif.
Spang-Chalfant Div., National Supply Co., Pittsburgh, Pa.
Stewarts and Lloyds, Limited, Glasgow, Scotland
Timken Roller Bearing Co. (Steel and Tube Div.), Canton, Ohio
Youngstown Sheet & Tube Co., The, Youngstown, Ohio

TUBING—Centrifugally Cast:
Bethlehem Steel Co., Bethlehem, Pa.
Burgess-Parr Co., Freeport, Ill.
Clow, James B., & Sons, 201 N. Talman, Chicago, Ill.
Cooper Alloy Foundry Co., The, Bloy St. & Ramsey Ave., Hillside, N. J.
Duraloy Co., The, Scottdale, Pa.
Ohio Steel Foundry Co., The, Springfield, Ohio
Shenango-Penn Mold Co., Dover, Ohio
U. S. Pipe & Foundry Co., Burington, N. J.

TUBING—Copper:
American Brass Co., 414 Meadow St., Waterbury 88, Conn.
Chase Brass & Copper Co., Waterbury, Conn.
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Revere Copper & Brass, Inc., 230 Park Ave., New York City
Wolverine Tube Div., 1411 Central Ave., Detroit, Mich.
Youngstown Welding & Engineering Co., The, Youngstown, Ohio

TUBING—Flexible, Metal:
American Brass Co., Waterbury, Conn.
Atlantic Metal Hose Co., 123 West 64th St., New York City
Chicago Metal Hose Corp., Maywood, Ill.
Zallea Bros. & Johnson, 890 Locust St., Wilmington, Del.

TUBING—High-Pressure, Flexible Metal:
American Brass Co., Waterbury, Conn.
Chicago Metal Hose Corp., Maywood, Ill.
Pennsylvania Flexible Metallic Tubing Co., 72nd and Powers Lane, Philadelphia, Pa.

TUBING—Mechanical:
Allegheny Ludlum Steel Corp., Brackenridge, Pa.
Babcock & Wilcox Tube Co., The, 85 Liberty St., New York City
Globe Steel Tubes Co., Milwaukee, Wis.
Harrisburg Steel Corp., Harrisburg, Pa.
Michigan Seamless Tube Co., South Lyon, Mich.
National Tube Co., Box 266, Pittsburgh, Pa.
Ohio Seamless Tube Co., The, Shelby, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
Spang-Chalfont Div. National Supply Co., Pittsburgh, Pa.
Steel & Tubes Division, Republic Steel Corp., Cleveland, Ohio
Stewarts and Lloyds, Limited, Glasgow, Scotland
Timken Roller Bearing Co. (Steel and Tube Div.), Canton, Ohio

TUBING—Plastic:
Acadia Synthetic Products Div., Western Felt Works, Chicago, Ill.
Dow Chemical Co., The, Plastics Division, Midland, Mich.
Goodrich, B. F., Co., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio
%Proportioneers, Inc.%, Providence, R. I.
U. S. Stoneware Co., Akron, Ohio

TUBING—Seamless, Flexible Metal:
American Brass Co., Waterbury, Conn.
Atlantic Metal Hose Co., 123 West 64th St., New York City
Chicago Metal Hose Corp., Maywood, Ill.
Tube Reducing Corp., Passaic, N. J.
Zallea Bros. & Johnson, Wilmington, Del.

TUBING—Steel:
Allegheny Ludlum Steel Corp., Brackenridge, Pa.
Babcock & Wilcox Tube Co., The, 85 Liberty St., New York City
Bethlehem Steel Co., Bethlehem, Pa.
Carpenter Steel Co., Kenilworth, N. J.
Globe Steel Tubes Co., Milwaukee, Wis.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Michigan Seamless Tube Co., South Lyon, Mich.
National Tube Co., Box 266, Pittsburgh, Pa.
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Republic Steel Corp., Republic Bldg., Cleveland, Ohio
Ryerson, Jos. T., & Sons, Inc., Chicago, Ill.
South Chester Tube Co., Chester, Pa.
Spang-Chalfont Div. National Supply Co., Pittsburgh, Pa.
Steel & Tubes, Division, Republic Steel Corp., Cleveland, Ohio
Stewarts & Lloyds, Ltd., Glasgow, Scotland
Timken Roller Bearing Co., Canton, Ohio
Wheeling Steel Corp., Wheeling, W. Va.
Youngstown Sheet & Tube Co., The, Youngstown, Ohio

TUBING—Steel, Seamless:
Allegheny Ludlum Steel Corp., Brackenridge, Pa.
Babcock & Wilcox Tube Co., The, 85 Liberty St., New York City
Bethlehem Steel Co., Bethlehem, Pa.
Globe Steel Tubes Co., Milwaukee, Wis.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Michigan Seamless Tube Co., South Lyon, Mich.

National Tube Co., Box 266, Pittsburgh, Pa.
Ohio Seamless Tube Co., The, Shelby, Ohio
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Pittsburgh Steel Co., Grant Bldg., Pittsburgh, Pa.
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
South Chester Tube Co., Chester, Pa.
Spang Chalfant Div. (The National Supply Co.), Pittsburgh, Pa.
Timken Roller Bearing Co. (Steel and Tube Div.), Canton, Ohio
Wheeling Steel Corp., Wheeling, W. Va.
Youngstown Sheet & Tube Co., The, Youngstown, Ohio

TURBINES—Deep-Well—See PUMPS—Turbine, Deep-Well:

TURBINES—Gas:
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Coppus Engineering Corp., Worcester, Mass.
Elliott Co., Jeannette, Pa.
Sturtevant, B. F., Co., Hyde Park, Boston, Mass.
Terry Steam Turbine Co., The, Hartford, Conn.

TURBINES—Steam:
Allen, W. H., Sons & Co., Ltd., Bedford, England
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Coppus Engineering Co., Worcester, Mass.
DeLaval Steam Turbine Co., Trenton, N. J.
Elliott Co., Jeannette, Pa.
General Electric Co., Schenectady, N. Y.
Terry Steam Turbine Co., The, Hartford, Conn.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

TURBO — Generators — See GENERATOR UNITS, Turbine-Driven

UNIONS—Ball Joint:
Fairbanks Co., The, 393 Lafayette St., New York City
Morrison Bros., Dubuque, Iowa
Petroleum Iron Works Div. of Pennsylvania Shipyards, Inc., Beaumont, Tex.
Thornhill-Craver Co., Houston, Texas
Walworth Co., 60 East 42nd St., New York City
Watson-Stillman Co., Roselle, N. J.

UNIONS—Drop Forged Steel:
Catawissa Valve & Fittings Co., Catawissa, Pa.
Thornhill-Craver Co., Houston, Tex.
Vogt, Henry, Machine Co., Louisville, Ky.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Roselle, N. J.
Well Equipment Mfg. Co., Houston, Tex.

UNIONS—Flange, Gasket-Type:
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Grinnell Co., Inc., Providence, R. I.
Kennedy Valve Mfg. Co., The, Elmira, N. Y.
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
Stockham Pipe Fittings Co., N. Birmingham, Ala.
Vogt, Henry, Machine Co., 1000 W. Ormsby St., Louisville 10, Ky.
Walworth Co., 60 East 42nd St., New York City
Watson-Stillman Co., Fittings Div., Roselle, N. J.

UNIONS—Flange, Ground Joint:
Belfield, H., Co., Philadelphia, Pa.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Fairbanks Co., The, 393 Lafayette St., New York City
Gaso Pump & Burner Mfg. Co., Tulsa, Okla.
Grinnell Co., Inc., Providence, R. I.
Kennedy Valve Mfg. Co., The, Elmira, N. Y.
Stockham Pipe Fittings Co., N. Birmingham, Ala.
Vogt, Henry, Machine Co., 1000 W. Ormsby St., Louisville 10, Ky.
Walworth Co., 60 East 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.

UNIONS—Flange, Tongue-and-Groove Joint:
Belfield, H., Co., Philadelphia, Pa.
Chase Brass & Copper Co., Waterbury, Conn.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Frick Co., Waynesboro, Pa.
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
Vogt, Henry, Machine Co., 1000 W. Ormsby St., Louisville 10, Ky.
Walworth Co., 60 East 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.

UNIONS—Forged Steel:
Belfield, H., Co., Philadelphia, Pa.
Catawissa Valve & Fittings Co., Catawissa, Pa.
Clayton, Mark & Co., Evanston, Ill.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Hadfields, Ltd., East Hecla Works, Sheffield, England
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Thornhill-Craver Co., Houston, Tex.
Vogt, Henry, Machine Co., Louisville, Ky.
Walworth Co., 60 East 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.
Well Equipment Mfg. Co., Houston, Tex.

UNIONS—Hammer, Lug:
Belfield, H., Co., Philadelphia, Pa.
Catawissa Valve & Fittings Co., Catawissa, Pa.
Clayton Mark & Co., Evanston, Ill.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Flagg, Stanley G., & Co., 1421 Chestnut St., Philadelphia, Pa.
Guiberson Corp., Dallas, Tex.
Watson-Stillman Co., Fitting Div., Roselle, N. J.
Well Equipment Mfg. Co., Houston, Tex.

UNIONS—Quick-Change:
Belfield, H., Co., Philadelphia, Pa.
Catawissa Valve & Fittings Co., Catawissa, Pa.
Clayton, Mark & Co., Evanston, Ill.
Guiberson Corp., Dallas, Tex.
MacClatchie Mfg. Co., Compton, Calif.
Petroleum Iron Works Div. of Pennsylvania Shipyards, Inc., Beaumont, Tex.
Thornhill-Craver Co., Houston, Tex.
Watson-Stillman Co., Fitting Div., Roselle, N. J.
Well Equipment Mfg. Co., Houston, Tex.

UNIONS—Screw, Gasket-Type:
Belfield, H., Co., Philadelphia, Pa.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Detroit Brass & Malleable Works, 100 So. Campbell Ave., Detroit, Mich.
Flagg, Stanley G., & Co., 1421 Chestnut St., Philadelphia, Pa.
Grinnell Co., Inc., Providence, R. I.
Kennedy Valve Mfg. Co., The, Elmira, N. Y.
Petroleum Iron Works Div. of Pennsylvania Shipyards, Inc., Beaumont, Tex.
Stockham Pipe Fittings Co., N. Birmingham, Ala.
Thornhill-Craver Co., Houston, Tex.
Victaulic Co. of America, 30 Rockefeller Plaza, New York City
Vogt, Henry, Machine Co., 1000 W. Ormsby St., Louisville 10, Ky.
Walworth Co., 60 East 42nd St., New York City

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Chase Brass & Copper Co., Waterbury, Conn.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Dart, E. M., Manufacturing Co., Providence, R. I.
Fairbanks Co., 393 Lafayette, New York City
Frick Co., Waynesboro, Pa.
Grinnell Co., Inc., Providence, R. I.
Kennedy Valve Mfg. Co., The, Elmira, N. Y.
Stockham Pipe Fittings Co., N. Birmingham, Ala.
Vogt, Henry, Machine Co., Louisville, Ky.
Walworth Co., 60 East 42nd St., New York City
Watson - Stillman Co., Fitting Div., Roselle, N. J.

VALVES—Acid-Resisting:
Automatic Temperature Control Co., Inc., 34 E. Logan St., Philadelphia 44, Pa.
Belfield Co., H., Philadelphia, Pa.
Chapman Valve Mfg. Co., Indian Orchard, Mass.
Copper Alloy Foundry Co., The, Elizabeth, N. J.
Darling Valve & Mfg. Co., Williamsport, Pa.
Durabla Mfg. Co., 114 Liberty St., New York City
Duraloy Co., The, Scottdale, Pa.
Duriron Co., The, Inc., Dayton, Ohio
Everlasting Valve Co., Jersey City, N. J.
Edward Valve & Mfg. Co., East Chicago, Ind.
Fairbanks Co., 393 Lafayette, New York City
General Controls Co., Glendale, Calif.
Goodrich, B. F., Co., Akron, Ohio
Hamer Oil Tool Co., Long Beach 7, Calif.
Hills-McCanna, 2349 Nelson, Chicago, Ill.
Hunt Tool Co., Houston, Tex.
Jarecki Mfg. Co., Chemical Bldg., St. Louis, Mo.
Jenkins Brothers, 80 White St., New York City
Knight, Maurice, Co., The, Cincinnati, Ohio
Ludlow Valve Mfg. Co., The, Troy, N. Y.
Lunkenheimer Co., The, Cincinnati, Ohio
McAlear Mfg. Co., 1901 S. Western Ave., Chicago, Ill.
Mechanical Rubber Co., Passaic, N. J.
National Carbon Co., 30 E. 42nd St., New York 17, N. Y.
National Lead Co., 111 Broadway, New York City
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Nordstrom Valve Co., Homewood, Pittsburgh, Pa.
Ohio Injector Co., Wadsworth, Ohio
Ohio Steel Foundry Co., The, Springfield, Ohio
Pacific Valve & Pump Co., Long Beach, Calif.
Pfaudler Co., The, Rochester, N. Y.
Porter, H. K., Co., Inc., Pittsburgh, Pa.
Powell, Wm., Co., The, Cincinnati, Ohio
Reed Roller Bit Co., Houston, Tex.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Star Brass Mfg. Co., 108 E. Dedhem, Boston 18, Mass,
U. S. Stoneware Co., Akron, Ohio
Walworth Co., 60 E. 42nd St. New York City
W. K. M. Co., Houston, Tex.

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Belfield Co., H., Philadelphia, Pa.
Bristol Co., The, Waterbury, Conn.
Brooks Rotameter Co., Lansdale, Pa.
Brown Instrument Div., 4488 Wayne Ave., Philadelphia 44, Pa.
Cash, A. W., Co., Decatur, Ill.
Chapman Valve Mfg. Co., Indian Orchard, Mass.
Clark Controller Co., 1146 E. 152nd St., Cleveland, Ohio

Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Crosby Steam Gage & Valve Co., 165 Broadway, New York City
Curtis Mfg. Co., 1905 Kienlen Ave., St. Louis 20, Mo.
Darling Valve & Mfg. Co., Williamsport, Pa.
Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
Fischer & Porter Co., Hatboro, Pa.
Fisher Governor Co., Marshalltown, Iowa
Foster Engineering Co., Newark, N. J.
Foxboro Co., The, Foxboro, Mass.
Galland Henning Co., Milwaukee, Wis.
General Controls Co., Glendale, Calif.
Grove Regulator Co., Oakland, Calif.
Hills-McCanna, 2349 Nelson, Chicago, Ill.
Illinois Engineering Co., 21st and Racine, Chicago, Ill.
Jenkins Brothers, 80 White St., New York City
Kennedy Valve Mfg. Co., The, Elmira, N. Y.
Ludlow Valve Mfg. Co., Troy, N. Y.
McAlear Manufacturing Co., 1901 South Western, Chicago, Ill.
Mason-Neilan Regulator Co., Boston, Mass.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Natural Gas Equipment, Inc., 714 West Olympic Blvd., Los Angeles, Calif.
Nicholson, W. H., & Co., Wilkes-Barre, Pa.
Powell, Wm., Co., The, Cincinnati, Ohio
Powers Regulator Co., 2720 Greenview Ave., Chicago, Ill.
Republic Flow Meters Co., Chicago 47, Ill.
Rockwell Mfg. Co., Pittsburgh 8, Pa.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
Taylor Instrument Companies, Rochester, N. Y.
Vogt, Henry, Machine Co., Louisville, Ky.
Walworth Co., 60 E. 42nd St., New York City
Westinghouse Air Brake Co., Wilmerding, Pa.

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Automatic Temperature Control Co., Inc., 34 E. Logan St., Philadelphia 44, Pa.
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Edward Valve & Mfg. Co., East Chicago, Ind.
Fairbanks Co., The, 393 Lafayette St., New York City
Fisher Governor Co., Marshalltown, Iowa
Frick Co., Waynesboro, Pa.
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Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
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Pacific Valve & Pump Co., Long Beach, Calif.
Powell, Wm., Co., The, Cincinnati, Ohio
Reading-Pratt & Cady Div., American Chain & Cable Co., Inc., Reading, Pa.
Security Engineering Co., Inc., Whittier, Calif.
Strong, Carlisle & Hammond Co., The, 1392 West 3rd St., Cleveland, Ohio
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Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
Detroit Brass & Malleable Works, 100 S. Campbell Ave., Detroit, Mich.
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Linde Air Products Co., 30 E. 42nd St., New York City
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Tagliabue, C. J., Mfg. Co., Brooklyn, N. Y.
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Walworth Co., 60 East 42nd St., New York City
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Jerguson Gage & Valve Co., Somerville, Mass.
Lorraine Corp., The, 11510 S. Alameda St., Los Angeles 2, Calif.
Lunkenheimer Co., The, Cincinnati, Ohio
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
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Walworth Co., 60 East 42nd St., New York City
Worthington Pump & Machinery Corp., Harrison, N. J.

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Clark Mfg. Co., The, 1830 E. 38th St., Cleveland 14, Ohio
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Edward Valve & Mfg. Co., East Chicago, Ind.
Everlasting Valve Co., Jersey City, N. J.
Fairbanks Co., The, 393 Lafayette St., New York City
Farris Engineering Co., Palisades Park, N. J.
Fisher Governor Co., Marshalltown, Iowa
General Controls Co., Glendale, Calif.
Hunt Tool Co., Houston, Tex.
Jenkins Brothers, 80 White St., New York City
Ludlow Valve Mfg. Co., Troy, N. Y.
Lunkenheimer Co., The, Cincinnati, Ohio
McDonnell & Miller, Wrigley Bldg., Chicago, Ill.
Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Ohio Injector Co., Wadsworth, Ohio

Okadee Co., 332 South Michigan, Chicago, Ill.
Parker Appliance Co., The, 17325 Euclid Ave., Cleveland 12, Ohio
Powell, Wm., Co., The, Cincinnati, Ohio
Reed Roller Bit Co., Houston, Tex.
Walworth Co., 60 East 42nd St., New York City
Well Equipment Mfg. Co., Houston, Tex.

VALVES—Breather—See VALVES, Tank, Vent

VALVES—Bronze:

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Brown Instrument Div., 4488 Wayne Ave., Philadelphia 44, Pa.
Chapman Valve Mfg. Co., Indian Orchard, Mass.
Chase Brass & Copper Co., Waterbury, Conn.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Crosby Steam Gage & Valve Co., 165 Broadway, New York City.
Darling Valve & Mfg. Co., Williamsport, Pa.
Everlasting Valve Co., Jersey City, N. J.
Farris Engineering Co., Palisades Park, N. J.
Fisher Governor Co., Marshalltown, Iowa
General Controls Co., Glendale, Calif.
Hamer Oil Tool Co., Long Beach 7, Calif.
Hills-McCanna, 2349 Nelson, Chicago, Ill.
Jarecki Mfg. Co., St. Louis, Mo.
Jenkins Brothers, 80 White St., New York City
Kennedy Valve Mfg. Co., The, Elmira N. Y.
Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.
Klinger, Richard, Ltd., Sidcup (Kent), England
Ludlow Valve Mfg. Co., Troy, N. Y.
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Watson-Stillman Co., Fitting Div., Roselle, N. J.

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Brown Instrument Div., 4488 Wayne Ave., Phila. 44, Pa.
Chapman Valve Mfg. Co., Indian Orchard, Mass.
Consolidated Steel Corp., Box 6880, East Los Angeles 22, Calif.
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Darling Valve & Mfg. Co., Williamsport, Pa.
Davis Regulator Co., 2541 S. Washtenaw Ave., Chicago, Ill.
Fisher Governor Co., Marshalltown, Iowa
General Controls Co., Glendale, Calif.
Hagan Corp., Hagan Bldg., Pittsburgh, Pa.
Ludlow Valve Mfg. Co., Troy, N. Y.
McAlear Mfg. Co., 1901 S. Western Ave., Chicago, Ill.
Mason-Neilan Regulator Co., Boston, Mass.
Ohio Injector Co., Wadsworth, Ohio
Porter, H. K., Co., Pittsburgh, Pa.
Powell, Wm., Co., The, Cincinnati, Ohio
Republic Flow Meters Co., Chicago 47, Ill.
R-S Products Corp., 110 Berkley St., Philadelphia, Pa.
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Chapman Valve Mfg. Co., Indian Orchard, Mass.
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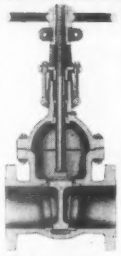

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Jarecki Mfg. Co., St. Louis, Mo.
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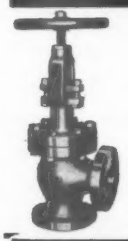

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Edward Valve & Mfg. Co., East Chicago, Ind.
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Jenkins Brothers, 80 White St., New York City
Jerguson Gage & Valve Co., Somerville, Mass.
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Milwaukee Valve Co., Milwaukee, Wis.
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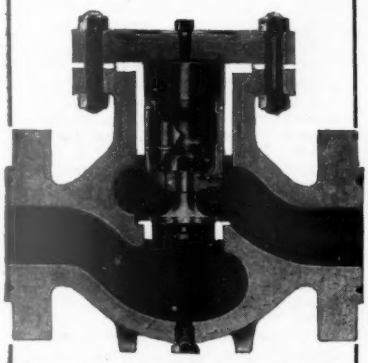

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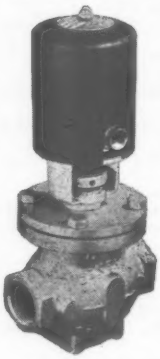

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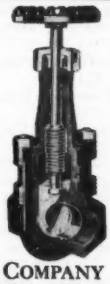

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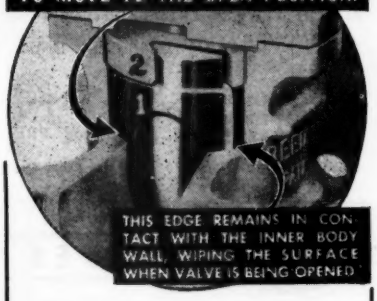

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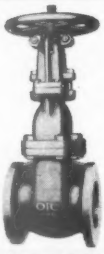
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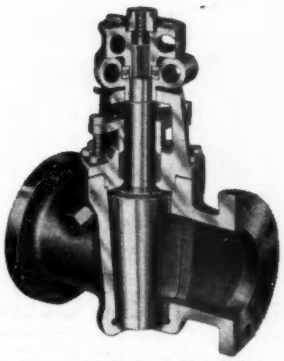

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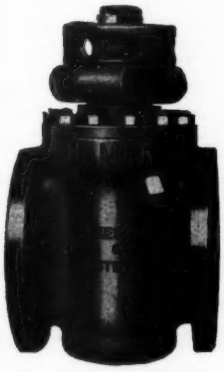

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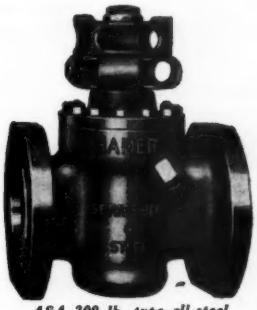

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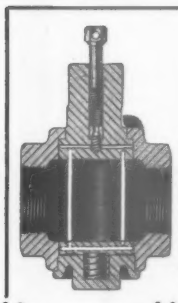
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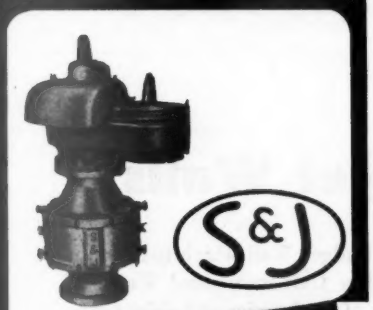

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VACUUM PUMPS—See PUMPS, Vacuum:

VALVE CUPS—See CUPS, Valve:

VIBRATION INSULATION:
Armstrong Cork Co., Lancaster, Pa.
Chicago Metal Hose Corp., Maywood, Ill.
Cork Insulation Co., Inc., 155 E. 44th St., New York City
Geospring, Inc., 500 Fifth Ave., New York 18, N. Y.
Goodrich, B. F., Co., Akron, Ohio
Johns-Manville Corp., 22 E. 40th St., New York City
Standard Asbestos Mfg. & Insulation Co., Kansas City, Mo.
U. S. Rubber Co., 1230 Sixth Ave., New York City

VOLTAGE REGULATORS—See REGULATORS, Voltage:

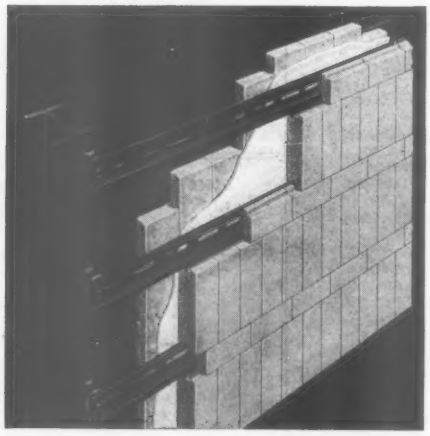
V-BELT DRIVES—See DRIVES, V-Belt:

WALLS—Air-Cooled:
Bigelow-Liptak Corp., 2842 W. Grand Blvd., Detroit, Mich.
Chicago Fire Brick Co., 1461 Elston Ave. Chicago 22, Ill.
Laclede Christy Clay Products Co., St. Louis, Mo.
Mexico Refractories Co., Mexico, Mo.

WALLS—Furnace:
Bigelow-Liptak Corp., 2842 W. Grand Blvd., Detroit, Mich.
Carborundum Co., Niagara Falls, N. Y.
Chicago Firebrick Co., 1461 Elston Ave., Chicago 22, Ill.
Combustion Engineering Corp., 200 Madison Ave., New York, N. Y.
Detrick, M. H., Co., 111 W. Washington, Chicago, Ill.
Engineering Co., 75 West St., New York City
Furnace Economy Co., 201 N. Wells St., Chicago, Ill.
Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh, Pa.
Kellogg Co., The M. W., 225 Broadway, New York City
Laclede Christy Clay Products Co., St. Louis, Mo.

Bigelow-Liptak

Unit-Suspended Budget Walls



Here is shown the Bigelow Budget Wall which is the thin design of the series of Bigelow Unit-Suspended Walls. It has all of the design features of the heavier and older types of Bigelow Walls, but is used where lower temperatures combined with slagless operation are encountered.

The reduction in the amount of refractory in combination with relatively thick insulation provides high thermal efficiency. The refractory heat storage is reduced to a minimum. A modification of this design is being used extensively for lining many of the large new Catalyst Reaction Chambers.

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Mexico Refractories Co., Mexico, Mo.
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
Plibrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.

WALLS—Insulated:
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Detrick, M. H., Co., 111 W. Washington, Chicago, Ill.
Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh, Pa.
Johns-Manville Corp., 22 E. 40th St., New York, N. Y.
Kellogg Co., The M. W., 225 Broadway, New York City
Laclede-Christy Clay Products Co., St. Louis, Mo.
McLeod & Henry Co., Troy, N. Y.
North American Refractories Co., Cleveland, Ohio
Owens Corning Fiberglass Corp., Toledo, Ohio
Sullivan Co., The, Memphis, Tenn.
Truscon Steel Co., Youngstown, Ohio

WALLS—Sectional Furnace:
Bigelow-Liptak Corp., 2842 W. Grand Blvd., Detroit, Mich.
Chicago Fire Brick Co., 1461 Elston Ave., Chicago 22, Ill.
Detrick, M. H., Co., 111 W. Washington St., Chicago, Ill.
Furnace Economy Co., 201 N. Wells St., Chicago, Ill.
Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh, Pa.
Kellogg Co., The M. W., 225 Broadway, New York City
Laclede-Christy Clay Products Co., St. Louis, Mo.
Lummus Co., The, 420 Lexington Ave., New York City
McLeod & Henry Co., Troy, N. Y.
Mexico Refractories Co., Mexico, Mo.
Plibrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.

WALLS—Unit Suspended:
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Detrick, M. H., Co., 111 W. Washington St., Chicago, Ill.
Furnace Economy Co., 201 N. Wells St., Chicago, Ill.
Harbison-Walker Refractories Co., Farmers Bank Bldg., Pittsburgh, Pa.
Lummus Co., The, 420 Lexington Ave., New York City
Mexico Refractories Co., Mexico, Mo.
Plibrico Jointless Firebrick Co., 1800 N. Kingsbury, Chicago, Ill.

WATER COOLERS—See COOLERS, Water:

WATER HEATERS—See HEATERS, Water:

WELDERS—Electric Arc:
Air Reduction Sales Co., 60 E. 42nd St., New York City
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
General Electric Co., Schenectady, N. Y.
Hobart Brothers Co., Troy, Ohio
Lincoln Electric Co., Cleveland, Ohio
National Cylinder Gas Co., 205 W. Wacker Drive, Chicago, Ill.
Nelson Specialty Welding Equipment Co., San Leandro, Calif.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Wilson Welder & Metals Co., Inc., 60 E. 42nd St., New York City

WELDING FITTINGS:
Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.
Bonney Forge & Tool Works, Allentown, Pa.
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
Dresser Mfg. Co., Bradford, Pa.
Globe Steel Tubes Co., 3839 W. Burnham St., Milwaukee 4, Wis.
Grinnell Co., Inc., Providence, R. I.
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Jarecki Mfg. Co., St. Louis, Mo.
Ladish Drop Forge Co., Cudahy, Wis.
Norris, W. C., Mfr., Inc., 10 N. Elwood, Tulsa, Okla.
Ohio Steel Foundry Co., The, Springfield, Ohio
Penn Mfg. Corp., Washington, Pa.
Rockwood Sprinkler Co., Worcester, Mass.
Sivyer Steel Casting Co., Milwaukee, Wis.
Stacey Mfg. Co., The, Cincinnati, Ohio
Southwest Welding & Mfg. Co., Alhambra, Calif.
Taylor Forge & Pipe Works, Chicago 90, Ill.
Texas Pipe Bending Co., Houston, Tex.
Thornhill-Craver Co., Houston, Tex.
Tube-Turns, Louisville, Ky.
Vogt, Henry, Machine Co., Louisville, Ky.
Walworth Co., 60 E. 42nd St., New York City
Watson-Stillman Co., Fitting Div., Roselle, N. J.
York Corp., York, Pa.

WELDING and CUTTING EQUIPMENT:
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Alexander Milburn Co., Baltimore, Md.
Ampco Metals, Inc., Milwaukee, Wis.
Bastian-Blessing, 4201 W. Peterson, Chicago 30, Ill.
General Electric Co., Schenectady, N. Y.
Good-All Electric Mfg. Co., Ogallala, Neb.
Lincoln Electric Co., Cleveland, Ohio
Linde Air Products Co., The, 30 E. 42nd St., New York City
Modern Engineering Co., St. Louis, Mo.
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Elgin Softener Corp., Elgin, Ill.
Griscom-Russell Co., The, 285 Madison Ave., New York 17, N. Y.
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Permutit Co., 330 W. 42nd St., New York City
%Proportioneers, Inc.%, Providence, R. I.
Refinite Corp., Omaha, Neb.
Standard Steel Corp., 5001 S. Boyle Ave., Los Angeles 11, Calif.
Wallace & Tiernan Products Inc., Belleville, N. J.
Worthington Pump & Machinery Corp., Harrison, N. J.
Stoody Co., Whittier, Calif.
Walls Chemical Div., Liquid Carbonic Co., 3100 S. Kedzie, Chicago 23, Ill.
Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.

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Air Reduction Sales Co., 60 E. 42nd St., New York City
American Brass Co., Waterbury 88, Conn.
American Manganese Steel Div., 389 E. 14th St., Chicago Heights, Ill.
American Steel & Wire Co., Cleveland, Ohio
Ampco Metals, Inc., Milwaukee, Wis.
Arcos Corp., 1515 Locust St., Philadelphia, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Chase Brass & Copper Co., Waterbury, Conn.
Eutectic Welding Alloys Co., 40 Worth St., New York City
General Electric Co., Schenectady, N. Y.
Harnischfeger Corp., Milwaukee, Wis.
Lincoln Electric Co., Cleveland, Ohio
Linde Air Products Co., 30 E. 42nd St., New York City
Metal & Thermit Corp., 120 Broadway, New York City
National Carbon Co., Inc., 30 E. 42nd St., New York 17, N. Y.
Page Steel & Wire Div., American Chain & Cable Co., Inc., Monessen, Pa.
Roebling's, John A., Sons Co., Trenton, N. J.
Ryerson, Jos. T., & Sons, 2558 W. 16th St., Chicago, Ill.
Sheffield Steel Corp., Kansas City, Mo.
Stoody Co., Whittier, Calif.
Wall-Colmonoy Corp., Detroit, Mich.
Westinghouse Electric Corp., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., The, Youngstown, Ohio

WELDING FITTINGS — See FITTINGS, Welding:

WELLS—Thermocouple:
Bayard, M. L., & Co., Inc., Philadelphia, Pa.
Brown Instrument Co., The, 4488 Wayne Ave., Philadelphia 44, Pa.
Equipoise Controls, 342 Madison Ave., New York 17, N. Y.
Foxboro Co., The, Foxboro, Mass.
Jerguson Gage & Valve Co., Somerville, Mass.
Kellogg Co., The M. W., 225 Broadway, New York 17, N. Y.
Richards Co., Inc., The Arkley S., Newton Highlands, Mass.
Trinity Equipment & Supply Co., Newark, N. J.
Wheelco Instruments Co., 847 W. Harrison, Chicago 7, Ill.

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Foxboro Co., The, Foxboro, Mass.
Jerguson Gage & Valve Co., Somerville, Mass.

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Cooper, Fred E., Tulsa, Okla.
Four Wheel Drive Auto Co., Clintonville, Wis.
Link-Belt Co., 300 W. Pershing Rd., Chicago 9, Ill.
Staytite Co., The, Houston, Tex.

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American Steel & Wire Co., Cleveland 13, Ohio
Chase Brass & Copper Co., Waterbury, Conn.
Federal Telephone & Radio Corp., 67 Broad St., New York City
General Electric Co., Schenectady, N. Y.
Roebling's, John A., Sons Co., Trenton, N. J.
U. S. Rubber Co., 1230 Sixth Ave., New York City

WIRE—Thermocouple:
Foxboro Co., The, Foxboro, Mass.
Leeds & Northrup Co., Philadelphia, Pa.

WIRE ROPE:
American Cable Div., American Chain & Cable Co., Inc., Wilkes-Barre, Pa.
American Steel & Wire Co., Cleveland 13, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Broderick & Bascom Co., St. Louis, Mo.
Chase Brass & Copper Co., Waterbury, Conn.
Hazard Wire Rope Div., American Chain & Cable Co., Bridgeport, Conn.
Pacific Wire Rope Co., Houston, Tex.
Rochester Ropes, Inc., Jamaica, N. Y.
Roebling's, John A., Sons Co., Trenton, N. J.
Ryerson, Jos. T., & Sons, Inc., Chicago, Ill.
Union Wire Rope Corp., Kansas City, Mo.

WIRE ROPE—Slings:
American Cable Div., American Chain & Cable Co., Inc., Wilkes-Barre, Pa.
American Steel & Wire Co., Cleveland, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Broderick & Bascom Co., St. Louis, Mo.
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Hazard Wire Rope Div., American Chain & Cable Co., Inc., Bridgeport, Conn.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Leschen, A., & Sons Rope Co., St. Loius Mo.
Macwhyte Co., Kenosha, Wis.
Pacific Wire Rope Co., Houston, Tex.
Rochester Ropes, Inc., Jamaica, N. Y.
Roebling's, John A., Sons Co., Trenton, N. J.
Ryerson, Jos. T., & Sons, Inc., Chicago, Ill.
Union Wire Rope Corp., Kansas City, Mo.
Wickwire Spencer Steel Co., 500 Fifth Ave., New York City

WRENCHES—Pneumatic Tool:
Ingersoll-Rand, New York 4, N. Y.

WRENCHES—Valve Operating:
Gearench Mfg. Co., Houston, Tex.
Newman, Hender & Co., Ltd., Woodchester, Glos., England
Walworth Co., 60 E. 42nd St., New York

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HANDY REFINERY ENGINEERING DATA

Designers and operators of modern refinery equipment often want fundamental engineering data. In the following pages are selected tables covering some of the most commonly used fundamentals.

Physical Properties of Common Condensing Agents*

	Formula weight, grams	Freezing point, °C.	Boiling point, °C.	Heat of vaporization Cal. per formula wt.	Heat of reaction with excess water Cal. per formula wt.	Density, g./cc.
HF†	20	—93 (16)	19.4	6,030 (4, 26)	11,560 (31)	1.0 at 0°C. (25)
H_2SO_4	98.1	10.5	Decompn.	12,000	17,800 at 18° C.	1.834 at 20°C.
$H_2SO_4.H_2O$	116.1	8.62	290	.....	.....	1.842 at 15°C.
$AlCl_3$	133.3	194	183	27,500	78,000	2.44 at 25°C.
BF_3	67.8	—127	—101	.....	24,000	.....

*Data obtained from the International Critical Tables unless otherwise noted.

†Liquid hydrogen fluoride also has an extremely low surface tension (25) and a high fluidity.

Effect of Mesh and Filter Rate on Efficiency of Fuller's Earth and Bauxite*

	Fuller's earth				Bauxite			
Screen analysis (Tyler Standards)	0/16- 0.8 16/20- 7.8 20/24-52.6 24/32-38.2 T/32- 0.6	0/16- 3.6 16/20-25.0 20/28-52.3 28/42-14.8 42/60- 3.7 T/60- 0.6	0/24- 1.3 24/28- 7.0 28/35-37.8 35/60-46.8 60/65- 4.1 65/80- 0.4 T/80- 2.6	0/60- 6.2 60/65-44.9 65/80-32.6 80/100-15.3 T/100- 1.0	0/16- 0.8 16/20- 9.2 20/24-40.0 24/32-49.0 T/32- 1.0	0/24- 6.5 24/28- 9.4 28/35-45.9 35/60-33.8 60/65- 2.5 65/80- 1.0 T/80- 0.9	0/24- 1.0 24/28- 1.5 28/35-40.9 35/60-50.2 60/65- 4.9 65/80- 1.0 T/80- 0.5	0/60-31.7 60/65-31.3 65/80-31.2 80/100- 4.9 T/100- 0.9
Percolation evaluations:†								
Burning temp., °F.	900	900	900	900	1200	12,00	1200	1200
Burned density, lb. per cu. ft.	31.0	31.0	30.9	29.7	54.9	54.8	54.5	53.7
Rate, cc. per min.	15	15	5 10 15	9	15	15	5 10 15	11
Yield to 6 A.S.T.M. (solution, color), bbl. vis. oil per ton	12.4	13.1	15.5 15.2 15.0	18.3	7.35	8.7	10.4 9.9 9.6	12.9
Percolation efficiency:								
Weight* basis	83	87	103 101 100	122	49	58	69 66 64	78
Volume basis	83	87	103 101 100	117	87	103	122 116 113	113

*Attapulgus Clay Co. †Based on filtration of Pennsylvania "A" cylinder stock solution (60 per cent naphtha) to 6 A.S.T.M. solution color at 135° F., using 2 by 25¾-in. column or approximately 570 g. of 30/60 fuller's earth and an equivalent volume of 30/60 bauxite. Efficiencies based on 30/60 mesh fuller's earth yield at 15 cc. per minute.

GAS CONVER

No.	Gas	Formula	Molecular weight	Lb. per cu. ft.†	Cu. ft. per lb.†	Sp. gr. air = 1.000†	Heat of combustion§ B.t.u. per ft. Gross	Heat of combustion§ B.t.u. per ft. Net‡	Heat of combustion§ B.t.u. per lb. Gross	Heat of combustion§ B.t.u. per lb. Net‡
1	Carbon	C	12.01						**14,093	**14,093
2	Hydrogen	H_2	2.016	0.005327	187.723	0.06959	325.0	275.0	61,100	51,623
3	Oxygen	O_2	32.000	0.08461	11.819	1.1053				
4	Nitrogen (atms.)	N_2	28.016	¶0.07439	¶13.443	¶0.9718				
5	Carbon monoxide	CO	28.01	0.07404	13.506	0.9672	321.8	321.8	4,347	4,347
6	Carbon dioxide paraffin series C_nH_{2n+2}	CO_2	44.01	0.1170	8.548	1.5282				
7	Methane	CH_4	16.041	0.04243	23.565	0.5543	1,013.2	913.1	23,879	21,520
8	Ethane	C_2H_6	30.067	¶0.08029	¶12.455	¶1.04882	1,792	1,641	22,320	20,432
9	Propane	C_3H_8	44.092	¶0.1196	¶8.365	¶1.5617	2,590	2,385	21,661	19,944
10	n-Butane	C_4H_{10}	58.118	¶0.1582	¶6.321	¶2.06654	3,370	3,118	21,308	19,680
11	Isobutane	C_4H_{10}	58.118	¶0.1582	¶6.321	¶2.06654	3,363	3,105	21,257	19,629
12	n-Pentane	C_5H_{12}	72.146	¶0.1904	¶5.252	¶2.4872	4,016	3,709	21,091	19,517
13	Isopentane	C_5H_{12}	72.146	¶0.1904	¶5.252	¶2.4872	4,008	3,716	21,025	19,478
14	Neopentane	C_5H_{12}	72.146	¶0.1904	¶5.252	¶2.4872	3,993	3,693	20,970	19,396
15	n-Hexane	C_6H_{14}	86.169	¶0.2274	¶4.398	¶2.9704	4,762	4,412	20,940	19,403
	Olefin series C_nH_{2n}									
16	Ethylene	C_2H_4	28.051	0.07456	13.412	0.9740	1,613.8	1,513.2	21,644	20,295
17	Propylene	C_3H_6	42.077	¶0.1110	¶9.007	¶1.4504	2,336	2,186	21,041	19,691
18	n-Butene (butylene)	C_4H_8	56.104	¶0.1480	¶6.756	¶1.9936	3,084	2,885	20,840	19,496
19	Isobutene	C_4H_8	56.104	¶0.1480	¶6.756	¶1.9336	3,068	2,869	20,730	19,382
20	n-Pentene	C_5H_{10}	70.128	¶0.1852	¶5.400	¶2.4190	3,836	3,586	20,712	19,363
	Aromatic series C_nH_{2n-6}									
21	Benzene	C_6H_6	78.107	¶0.2060	¶4.852	¶2.6920	3,751	3,601	18,210	17,480
22	Toluene	C_7H_8	92.132	¶0.2431	¶4.113	¶3.1760	4,484	4,284	18,440	17,620
23	Xylene	C_8H_{10}	106.158	¶0.2803	¶3.567	¶3.6618	5,230	4,980	18,650	17,760
	Miscellaneous gases									
24	Acetylene	C_2H_2	26.036	0.06971	14.334	0.9107	1,449	1,448	21,500	20,776
25	Naphthalene	$C_{10}H_8$	128.162	¶0.3384	¶2.955	¶4.4208	‖5,854	‖5,654	‖17,298	‖16,708
26	Methyl alcohol	CH_3OH	32.041	¶0.0846	¶11.820	¶1.1052	867.9	768.0	10,259	9,078
27	Ethyl alcohol	C_2H_5OH	46.067	¶0.1216	¶8.221	¶1.5890	1,600.3	1,450.5	13,161	11,929
28	Ammonia	NH_3	17.031	¶0.0456	¶21.914	¶0.5961	441.1	365.1	9,668	8,001
29	Sulfur	S	32.06	.....	.....	.....	....	....	3,983	3,983
30	Hydrogen sulfide	H_2S	34.076	¶0.09109	¶10.979	¶1.1898	647	596	7,100	6,545
31	Sulfur dioxide	SO_2	64.06	0.1733	5.770	2.264				
32	Water vapor	H_2O	18.016	¶0.04758	¶21.017	¶0.6215				
33	Air		28.9	0.07655	13.063	1.0000				

*Calculated from atomic weights given in J. Am. Chem. Soc., Feb. 1937.

†Densities calculated from values given in grams per liter at 0° C. at 760 mm. in the "International Critical Tables" allowing for the known deviations from the gas laws. Where the coefficient of expansion was not available, the assumed value was taken as 0.0037 per °C. Compare this with 0.003662 which is the coefficient for a perfect gas. Where no densities were available, the volume of the mol was taken as 22.41151. Some of the materials cannot exist as gases at 60° F. and 30" Hg. pressure, in which case the values are theoretical ones given for ease of calculation of gas problems. Under the actual concentrations in which these materials are present, their partial pressure is low enough to keep them as gases.

‡Deduction from gross to net heating value deter-

SION TABLES

Cu. ft. per cu. ft. of combustible						Lb. per lb. of combustible						Experimental error in heat of combustion
Required for combustion			Flue products			Required for combustion			Flue products			
O_2	N_2	Air	CO_2	H_2O	N_2	O_2	N_2	Air	CO_2	H_2O	N_2	% + or −
...	.....	.....	...	...	.....	2.664	8.863	11.527	3.664	....	8.863	0.012
0.5	1.882	2.382	...	1.0	1.882	7.937	26.407	34.344	....	8.937	26.407	0.015
0.5	1.882	2.382	1.0	...	1.882	0.571	1.900	2.471	1.571	....	1.900	0.045
2.0	7.528	9.528	1.0	2.0	7.528	3.990	13.275	17.265	2.744	2.246	13.275	0.033
3.5	13.175	16.675	2.0	3.0	13.175	3.725	12.394	16.119	2.927	1.798	12.394	0.030
5.0	18.821	23.821	3.0	4.0	18.821	3.629	12.074	15.703	2.994	1.634	12.074	0.023
6.5	24.467	30.967	4.0	5.0	24.467	3.579	11.908	15.487	3.029	1.550	11.908	0.022
6.5	24.467	30.967	4.0	5.0	24.467	3.579	11.908	15.487	3.029	1.550	11.908	0.019
8.0	30.114	38.114	5.0	6.0	30.114	3.548	11.805	15.353	3.050	1.498	11.805	0.025
8.0	30.114	38.114	5.0	6.0	30.114	3.548	11.805	15.353	3.050	1.498	11.805	0.071
8.0	30.114	38.114	5.0	6.0	30.114	3.548	11.805	15.353	3.050	1.498	11.805	0.11
9.5	35.760	45.260	6.0	7.0	35.760	3.528	11.738	15.266	3.064	1.464	11.738	0.05
3.0	11.293	14.293	2.0	2.0	11.293	3.422	11.385	14.807	3.138	1.285	11.385	0.021
4.5	16.939	21.439	3.0	3.0	16.939	3.422	11.385	14.807	3.138	1.285	11.385	0.031
6.0	22.585	28.585	4.0	4.0	22.585	3.422	11.385	14.807	3.138	1.285	11.385	0.031
6.0	22.585	28.585	4.0	4.0	22.585	3.422	11.385	14.807	3.138	1.285	11.385	0.031
7.5	28.232	35.732	5.0	5.0	28.232	3.422	11.385	14.807	3.138	1.285	11.385	0.037
7.5	28.232	35.732	6.0	3.0	28.232	3.073	10.224	13.297	3.381	0.692	10.224	0.12
9.0	33.878	42.878	7.0	4.0	33.878	3.126	10.401	13.527	3.344	0.782	10.401	0.21
10.5	39.524	50.024	8.0	5.0	39.524	3.165	10.530	13.695	3.317	0.849	10.530	0.36
2.5	9.411	11.911	2.0	1.0	9.411	3.073	10.224	13.297	3.381	0.692	10.224	0.16
12.0	45.170	57.160	10.0	4.0	45.170	2.996	9.968	12.964	3.434	0.562	9.968	(‖)
1.5	5.646	7.146	1.0	2.0	5.646	1.498	4.784	6.482	1.374	1.125	4.984	0.027
3.0	11.293	14.293	2.0	3.0	11.293	2.084	6.934	9.018	1.911	1.170	6.934	0.030
0.75	2.823	3.573	...	1.5	3.323	1.409	4.688	6.097	....	1.587	5.511	0.088
...	.....	.....	...	...	.....	0.998	3.287	4.285	SO_2 1.998	....	3.287	0.071
1.5	5.646	7.146	SO_2 1.0	1.0	5.646	1.409	4.688	6.097	SO_2 1.880	0.529	4.688	0.30

mined by deducting 18,919 B.t.u. per pound-mol of water in the products of combustion. Osborne, Stimson, and Ginnings, Mech. Eng., p. 163, March 1935, and Osborne, Stimson and Fiock, Nat. Bureau of Standards (U.S.), Research Paper 209.

§Converted to mean B.t.u. per pound (1/180 of the heat per pound of water from 32° to 212° F.). From data by Frederick O. Rossini, Natl. Bureau of Standards, letter of Apr. 10, 1937, except as noted.

¶From 3rd ed. of Combustion, published by American Gas Association.

‖Either the density or the coefficient has been assumed.

**See data for Carbon, Nat. Bureau of Standards, Research Paper 1141.

Properties of Propane†

Temp., °F.	Pressure, lb. per sq. in. Absolute	Pressure, lb. per sq. in. Gage	Specific volume, cu. ft. per lb. Liquid	Specific volume, cu. ft. per lb. Vapor	Density, lb. per cu. ft. Liquid	Density, lb. per cu. ft. Vapor	Heat content, B.t.u. per lb. Liquid	Heat content, B.t.u. per lb. Vapor	Latent heat, B.t.u. per lb.	Entropy, B.t.u. per lb. per °F. Liquid	Entropy, B.t.u. per lb. per °F. Vapor
—75	6.37	*17.0	0.02660	14.5	37.59	0.0690	—39.5	151.0	190.5	—0.092	0.404
—70	7.37	*14.9	.02674	12.9	37.40	0.0775	—37.0	152.5	189.5	—.086	400
—65	8.48	*12.7	.02688	11.3	37.20	0.0885	—34.5	153.5	188.0	—.080	.397
—60	9.72	*10.1	.02703	9.93	37.00	0.111	—32.0	155.0	187.0	—.074	.393
—55	11.1	*7.3	.02717	8.70	36.80	0.115	—29.0	156.5	185.5	—.067	.391
—50	12.6	*4.3	.02732	7.74	36.60	0.129	—26.5	158.0	184.5	—.061	.389
—45	14.4	*0.6	.02748	6.89	36.39	0.145	—24.0	159.0	183.0	—.055	.386
—40	16.2	1.5	.02763	6.13	36.19	0.163	—21.5	160.0	181.5	—.049	.384
—35	18.1	3.4	.02779	5.51	35.99	0.181	—19.0	161.0	180.0	—.042	.382
—30	20.3	5.6	.02795	4.93	35.78	0.203	—16.0	163.0	179.0	—.036	.380
—25	22.7	8.0	.02811	4.46	35.58	0.224	—13.5	164.0	177.5	—.030	.378
—20	25.4	10.7	.02827	4.00	35.37	0.250	—11.0	165.0	176.0	—0.24	.377
—15	28.3	13.6	.02844	3.60	35.16	0.278	—8.0	167.0	175.0	—.018	.375
—10	31.4	16.7	.02860	3.26	34.96	0.307	—5.5	168.0	173.5	—.012	.374
—5	34.7	20.0	.02878	2.97	34.75	0.337	—2.5	169.5	172.0	—.006	.372
0	38.2	23.5	.02895	2.71	34.54	0.369	0.0	170.5	170.5	.000	.371
+5	41.9	27.2	.02913	2.48	34.33	0.403	+3.0	172.0	169.5	+.006	.370
10	46.0	31.3	.02931	2.27	34.12	0.441	5.5	173.5	168.0	.012	.370
15	50.6	35.9	.02950	2.07	33.90	0.483	8.5	175.0	166.5	.018	.369
20	55.5	40.8	.02970	1.90	33.67	0.526	11.0	176.0	165.0	.024	.368
25	60.9	46.2	.02991	1.74	33.43	0.575	14.0	177.5	163.5	.030	.368
30	66.3	51.6	.03012	1.60	33.20	0.625	17.0	179.0	162.0	.035	.366
35	72.0	57.3	.03033	1.48	32.97	0.676	20.0	180.5	160.5	.041	.366
40	78.0	63.3	.03055	1.37	32.73	0.730	23.0	182.0	159.0	.047	.366
45	84.6	69.9	.03078	1.27	32.49	0.787	26.0	183.5	157.5	.053	.365
50	91.8	77.1	.03102	1.18	32.24	0.847	29.0	185.0	156.0	.059	.365
55	99.3	84.6	.03125	1.10	32.00	0.909	32.0	186.5	154.5	.065	.365
60	107.1	92.4	.03150	1.01	31.75	0.990	35.0	188.0	153.0	.070	.364
65	115.4	100.7	.03174	0.945	31.50	1.06	38.0	189.5	151.5	.076	.364
70	124.0	109.3	.03201	0.883	31.24	1.13	41.0	190.5	149.5	.082	.364
75	133.2	118.5	.03229	0.825	30.97	1.21	44.0	192.0	148.0	.088	.364
80	142.8	128.1	.03257	0.770	30.70	1.30	47.5	193.5	146.0	.093	.364
85	153.1	138.4	.03287	0.722	30.42	1.39	50.5	195.0	144.5	.099	.364
86	155.3	140.5	.03292	0.717	30.38	1.40	51.0	195.5	144.0	.100	.364
90	164.0	149.0	.03317	0.673	30.15	1.49	54.0	196.5	142.5	.105	.364
95	175.0	160.0	.03348	0.632	29.87	1.58	57.0	197.5	140.5	.111	.364
100	187.0	172.0	.03381	0.591	29.58	1.69	60.5	199.0	138.5	.116	.363
105	200.0	185.0	.03416	0.553	29.27	1.81	63.5	200.0	136.5	.122	.363
110	212.0	197.0	.03481	0.519	28.85	1.96	67.0	201.0	134.0	.128	.363
115	226.0	211.0	.03493	0.488	28.63	2.05	70.5	202.0	131.5	.134	.363
120	240.0	225.0	.03534	0.459	28.30	2.18	73.5	202.5	129.0	.140	.363
125	254.0	239.0	.03575	0.432	27.97	2.31	77.0	203.5	126.5	.145	.361

*In. Hg below 1 atm. (29.92 in.).

†Am. Soc. Refrigerating Eng., Circ. 9.

VISCOSITY CONVERSION TABLES

Seconds Saybolt	Seconds Redwood	Degrees Engler	Centistokes Kinematic	Seconds Saybolt	Seconds Redwood	Degrees Engler	Centistokes Kinematic	Seconds Saybolt	Seconds Redwood	Degrees Engler	Centistokes Kinematic
50	44.0	1.60	7.40	100	87.4	2.95	20.65	150	131.6	4.35	32.10
51	44.9	1.63	7.71	101	88.2	2.98	20.90	151	132.5	4.38	32.33
52	45.7	1.65	8.02	102	89.0	3.00	21.14	152	133.5	4.41	32.56
53	46.6	1.68	8.32	103	89.8	3.03	21.38	153	134.4	4.44	32.78
54	47.5	1.71	8.60	104	90.6	3.05	21.60	154	135.3	4.46	33.00
55	48.4	1.74	8.88	105	91.5	3.08	21.81	155	136.2	4.49	33.23
56	49.2	1.76	9.18	106	92.3	3.11	22.07	156	137.0	4.52	33.46
57	50.0	1.79	9.46	107	93.1	3.13	22.30	157	137.8	4.55	33.68
58	50.9	1.81	9.74	108	93.9	3.16	22.53	158	138.7	4.57	33.91
59	51.8	1.84	10.03	109	94.7	3.18	22.75	159	139.6	4.60	34.13
60	52.7	1.87	10.31	110	95.5	3.21	22.97	160	140.5	4.63	34.36
61	53.6	1.90	10.60	111	96.4	3.23	23.21	161	141.4	4.66	34.68
62	54.5	1.92	10.89	112	97.2	3.26	23.45	162	142.3	4.69	34.80
63	55.4	1.95	11.16	113	98.0	3.29	23.68	163	143.2	4.72	35.12
64	56.3	1.97	11.43	114	98.9	3.32	23.91	164	144.1	4.75	35.25
65	57.1	2.00	11.69	115	99.8	3.34	24.13	165	145.0	4.78	35.48
66	58.0	2.03	11.97	116	100.6	3.37	24.37	166	145.9	4.81	35.70
67	58.8	2.06	12.23	117	101.5	3.39	24.60	167	146.8	4.84	35.92
68	59.6	2.08	12.51	118	102.4	3.42	24.83	168	147.7	4.86	36.14
69	60.5	2.11	12.77	119	103.3	3.45	25.05	169	148.6	4.89	36.37
70	61.4	2.14	13.03	120	104.2	3.48	25.27	170	149.5	4.92	36.61
71	62.2	2.16	13.30	121	105.1	3.50	25.51	171	150.4	4.95	36.82
72	63.1	2.19	13.57	122	106.0	3.53	25.74	172	151.2	4.98	37.03
73	64.0	2.22	13.84	123	106.9	3.56	25.97	173	152.1	5.01	37.26
74	64.8	2.24	14.01	124	107.9	3.59	26.19	174	153.0	5.04	37.49
75	65.7	2.27	14.35	125	108.9	3.62	26.42	175	154.0	5.07	37.73
76	66.6	2.30	14.61	126	109.8	3.65	26.65	176	154.9	5.09	37.96
77	67.4	2.33	14.87	127	110.6	3.68	26.88	177	155.8	5.12	38.18
78	68.3	2.36	15.13	128	111.5	3.71	27.11	178	156.7	5.15	38.39
79	69.1	2.38	15.39	129	112.5	3.73	27.34	179	157.6	5.18	38.62
80	70.0	2.41	15.64	130	113.4	3.76	27.56	180	158.4	5.21	38.85
81	70.9	2.44	15.92	131	114.3	3.79	27.80	181	159.3	5.24	39.18
82	71.7	2.46	16.18	132	115.2	3.82	28.03	182	160.2	5.27	39.30
83	72.6	2.49	16.44	133	116.2	3.85	28.26	183	161.1	5.30	39.52
84	73.5	2.52	16.69	134	117.0	3.88	28.48	184	162.0	5.33	39.74
85	74.3	2.54	16.92	135	117.9	3.91	28.70	185	162.9	5.36	39.97
86	75.2	2.57	17.17	136	119.0	3.94	28.94	186	163.9	5.39	40.19
87	76.0	2.60	17.41	137	119.9	3.97	29.18	187	164.8	5.42	40.41
88	76.9	2.62	17.66	138	120.7	4.00	29.41	188	165.7	5.44	40.64
89	77.7	2.65	17.91	139	121.7	4.03	29.63	189	166.6	5.47	40.87
90	78.6	2.67	18.17	140	122.6	4.06	29.84	190	167.5	5.50	41.09
91	79.5	2.70	18.43	141	123.5	4.09	30.08	191	168.5	5.53	41.31
92	80.4	2.73	18.69	142	124.4	4.12	30.31	192	169.4	5.56	41.53
93	81.4	2.76	18.94	143	125.4	4.15	30.54	193	170.3	5.59	41.75
94	82.3	2.79	19.18	144	126.3	4.17	30.77	194	171.2	5.62	41.98
95	83.1	2.81	19.42	145	127.1	4.20	30.97	195	172.0	5.65	42.21
96	84.0	2.84	19.69	146	128.0	4.23	31.21	196	172.9	5.68	42.43
97	84.9	2.87	19.94	147	129.0	4.26	31.45	197	173.9	5.71	42.66
98	85.7	2.89	20.18	148	129.9	4.29	31.68	198	174.8	5.74	42.89
99	86.6	2.92	20.42	149	130.7	4.32	31.91	199	175.7	5.76	43.10

Heats of Combustion and Air Required to Burn Hydrocarbons

Hydrocarbon	Formula	A. mol. wt.	B. B.t.u. per lb. on combustion	C. cu. ft. air to burn 1 lb. completely, calculated	Ratio B:C
Paraffins:					
Methane	CH_4 (gas)	16	23,550	228	103
Ethane	C_2H_6 (gas)	30	21,950	212	103
Propane	C_3H_8 (gas)	44	21,390	207	103
Butane (i.)	C_4H_{10} (gas)	58	21,000	203	102+
Pentane (n.)	C_5H_{12} (liquid)	72	20,700	202	102
Hexane (n.)	C_6H_{14} (liquid)	86	20,580	201	102
Octane (n.)	C_8H_{18} (liquid)	114	20,400	200	102
Decane	$C_{10}H_{22}$ (liquid)	142	20,200	199	101+
Olefins:					
Ethylene	C_2H_4 (gas)	28	21,200	195	109—
Propylene	C_3H_6 (gas)	42	20,800	195	107—
Butylene	C_4H_8 (gas)	56	20,600	195	105+
Amylene	C_5H_{10} (gas)	70	20,500	195	105
Hexylene	C_6H_{12} (liquid)	84	20,250	195	104
Diamylene	$C_{10}H_{20}$ (liquid	140	20,200	195	103.5
Acetylenes:					
Acetylene	C_2H_2 (gas)	26	21,400	151	142
Trimethylene	C_3H_4 (gas)	40	20,400-21,200	176	116-120+
Diallyl	C_6H_{10} (liquid)	82	20,300	182	111
Heptine	C_7H_{12} (liquid)	96	20,300	190—	107

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